A.4 Closure/ Post-Closure

H. Cole

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

1021 NORTH GRAND AVENUE EAST, P.O. BOX 19276, SPRINGFIELD, ILLINOIS 62794-9276

THOMAS V. SKINNER, DIRECTOR

217/524-3300

January 30, 2001

Lonza, Inc.
P.O. Box 105
Mapleton, Illinois 61574

Re: 1438050005 – Peoria County
Lonza, Inc.
ILD001643659
RCRA Closure Fil

Gentlemen:

In September 1997, the USEPA published its national Strategic Plan, setting forth clear environmental goals through the year 2005. As required under the Government Performance and Results Act ("GPRA"), the Strategic Plan describes the USEPA's mission and ten broad goals that will serve as the framework for the USEPA's planning and resource allocation decisions. The USEPA based its goals on public priorities as articulated by Congress in the form of statutory mandates and as expressed in direct public comment.

Goal Number 5 in the USEPA's Strategic Plan is as follows:

> "Better waste management, restoration of contaminated waste sites, and emergency response."

The USEPA's stated objectives under Goal 5 include reducing or controlling risks to human health and the environment at over 375,000 contaminated Superfund, RCRA, UST, and brownfield sites, and managing the roughly 14,000 facilities defined by RCRA Subtitles C,and D *according to practices that prevent dangerous releases to the environment.* More specifically related to RCRA hazardous waste facilities, the EPA has committed to preventing dangerous releases to air, soil, and groundwater at 80% of such facilities in the United States by the year 2005. Because this commitment is made as part if its GPRA strategy, the USEPA regards this as one of its highest priorities.

Recently, USEPA Region 5 established an inventory or "universe" of RCRA facilities which fall under this 80% commitment. The status of RCRA facilities as of October 1, 1997, was selected to establish an overall baseline universe (i.e., the list of 100% of affected facilities). The current status of these same RCRA facilities has been used to determine the percentage of facilities that

are at this time "under control" (i.e., facilities where all hazardous waste units are being managed according to practices that prevent dangerous releases).

To gain a better understanding of exactly what efforts will be necessary to meet the commitment to have 80% of RCRA facilities under control by the year 2005, the USEPA has further broken down the universe of facilities into separate subset universes listing (1) RCRA facilities with operating hazardous waste units not involving land disposal, and (2) RCRA facilities which have closed or will likely close with hazardous waste in place and hence need post-closure care. Some facilities are listed only in the operating universe ("OPU"), some are listed only in the post-closure universe ("PCU"), and some facilities are listed in both. Comparing these two lists quickly demonstrated that the majority of facilities in Region 5 with operating RCRA units already have permits and are therefore "under control," but also that much work remains before the post-closure universe can achieve the 80% number.

The USEPA has decided that it will not be necessary in all cases for a facility with one or more land disposal units to have a full post-closure permit in place (under 40 CFR 264 or the equivalent state regulations) in order for that facility to be considered as "under control." There will be some flexibility for facilities which have an enforceable agreement in place with its state environmental USEPA to be considered "under control" for the purposes of the 80% commitment. However, any such agreement would also need to include a groundwater monitoring and post-closure care scheme deemed equivalent to that in a RCRA post-closure permit (i.e., 40 CFR Part 264 Subparts F and G or the state equivalent). Under appropriate circumstances, formally including the units under corrective action requirements in a RCRA permit or RCRA administrative order (40 CFR 264.101 or RCRA 3008(h), respectively) may be another option for bringing a facility with hazardous waste post closure units under control.

This letter is being sent to you because your facility is currently listed on USEPA's and Illinois EPA's GPRA post-closure universe and is shown as not yet under control. My purpose in sending this letter is to alert you to the importance that the USEPA and Illinois EPA now place on moving facilities such as yours into "under control" status, and to urge you to contact and work with the Illinois EPA to explore the various options for achieving this status. Many facilities which are currently under an enforceable interim status closure plan might be able to work with Illinois EPA to upgrade the groundwater monitoring and post-closure care language in those documents, expeditiously bringing the facility to "under control" status.

Thank you for your cooperation in this matter. With your help, the public can be assured that the country's wastes will be stored, treated, and disposed in ways that prevent harm to people and to the natural environment.

If you have any questions about this letter, or would like to explore post closure options that may be open to you, please contact me at the above address or phone number.

Sincerely,

Joyce L. Munie, P.E.
Manager, Permit Section
Bureau of Land

JLM:SCC\mls013481.doc

cc: Harriet Croke, USEPA

1438050005 -- Peoria
Lonza
Compliance

LONZA

LONZA Inc.
Mapleton
Route 24
P.O. Box 105
Mapleton, IL 61547

September 28, 1995

James K. Moore, P.E.
Illinois Environmental Protection Agency
Division of Land Pollution Control
Permit Section
2200 Churchill Road
Springfield, IL 62794-9276

RE: Lonza - Mapleton Facility
1438050005 -- Peoria County
ILD 001643659
Schedule for Closure Activities

Dear Mr. Moore,

Since my letter to you dated August 28, 1995, there has been some delay in the entry of the Consent Order that has been negotiated between Lonza and the State of Illinois. As the parties have recognized, that delay necessitates some clarification of our agreement with respect to the dates for completion of certain closure activities. In order to account for any continuing procedural delays in the entry of the Consent Order, the agreement between Lonza and the Agency will be clarified so that Lonza will cease the discharge of wastewater into lagoon 1 and commence de-watering of that lagoon within 24 months after the entry of the Consent Order. In addition, within 42 months after the entry of the consent Order, Lonza will submit to the Agency certification both by Lonza and by an independent registered professional engineer that the facility has been closed in accordance with the specifications approved by the Agency. Lonza will perform the foregoing closure activities within those time periods in compliance with its obligations under the Consent Order that has been negotiated between Lonza and the State of Illinois. The foregoing time periods supersede the particular dates previously set forth in my letter to you dated August 28, 1995.

If you should have any questions regarding these matters, or if your understanding of the agreement between Lonza and the Agency regarding the time periods for performance of certain closure activities differs in any way from the set forth herein, please do not hesitate to call me at (309) 697-7247.

SCREENED
OCT 1 8 1995
DJH

Sincerely,

Robert E. Miller
Manager, Safety, Health & Environment

CC: Julie Weisenberg, OAG Chicago
Michelle Simcik, IEPA Counsel
Kevin M. Murphy, Latham & Watkins

SEP 2 9 1995

REM/mjm

LONZA Quality

developed such that it meets the requirements of 35 Ill. Adm. Code 620, 725, and 742. The plan must include, but not be limited to the following:

a. Analytical results obtained from the Fourth Quarter 1999 through Third Quarter 2000 groundwater sampling events;

b. A description and justification for a course of action (e.g., continued groundwater monitoring, 35 Ill. Adm. Code Part 742 evaluation, etc.) in regards to groundwater based on results from groundwater sampling events conducted since the closure of the subject surface impoundment; and

c. A schedule for the implementation of the proposed course of action.

3. Unless otherwise modified above, the groundwater monitoring program at the Lonza facility must continue to be carried out in accordance with the Illinois EPA's approval letters dated July 14, 1993 (Log No. C-701) and August 4, 1994 (Log No. C-701).

Within 35 days of the date of mailing of this final decision by Illinois EPA, the applicant may petition for a hearing before the Illinois Pollution Control Board to contest the decision of the Illinois EPA, however, the 35-day period for petitioning for a hearing may be extended for a period of time not to exceed 90 days by written notice provided to the Board from the applicant and the Illinois EPA within the 35-day initial appeal period.

Work required by this letter, your submittal or the regulations may also be subject to other laws governing professional services, such as the Illinois Professional Land Surveyor Act of 1989, the Professional Engineering Practice Act of 1989, the Professional Geologist Licensing Act, and the Structural Engineering Licensing Act of 1989. This letter does not relieve anyone from compliance with these laws and the regulations adopted pursuant to these laws. All work that falls within the scope and definitions of these laws must be performed in compliance with them. The Illinois EPA may refer any discovered violation of these laws to the appropriate regulating authority.

If you have any questions regarding groundwater-related issues associated with this project, please contact Terri Blake Myers, L.P.G. at 217/524-3284; questions regarding other aspects of this RCRA closure project should be directed to James K. Moore, P.E. at 217/524-3295.

Sincerely,

Joyce L. Munie, P.E.
Manager, Permit Section
Bureau of Land

JLM:JKM:bjh\99711S.WPD

bcc: Bureau File
Peoria Region
Jim Moore
Terri Blake Myers

pin

C-701-M-5

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

1021 NORTH GRAND AVENUE EAST, P.O. BOX 19276, SPRINGFIELD, ILLINOIS 62794-9276

THOMAS V. SKINNER, DIRECTOR

217/524-3300

November 10, 1999

CERTIFIED MAIL
P 344 305 996

Mr. Robert Miller
Lonza, Inc.
P.O. Box 105
Mapleton, Illinois 61547

Re: 1438050005 -- Peoria County
Lonza, Inc.
ILD001643659
Log No. C-701-M-5
Received: August 24, 1995
RCRA Closure

Dear Mr. Miller:

This is in response to your August 23, 1999 letter regarding groundwater-related issues associated with the RCRA closure of a former hazardous waste surface impoundment at the above-referenced facility. A plan to close this surface impoundment was first approved by Illinois EPA on July 14, 1992 and a substantial amount of work has been completed towards the goal of achieving clean-closure of this unit. Illinois EPA determined on April 6, 1999 that the soil removal efforts completed at this unit were acceptable and that Lonza should focus on groundwater-related issues to bring this project to final completion.

Your submittal proposed steps to be taken to demonstrate that the subject surface impoundment can be clean-closed relative to groundwater. This submittal was reviewed as a request to modify the approved closure plan for the subject surface impoundment and is hereby approved subject to the following conditions and modifications:

1. The Illinois EPA cannot concur with Lonza's request to reduce its analytical schedule to only Acetone for the six (6) groundwater monitoring wells at the facility. SW-846 Method 8260B, utilized to analyze groundwater samples at the facility, is an analytical method that provides information regarding the presence and concentration of a number of constituents and not Acetone alone. Any analytical result for any of these constituents detected at a level greater than the applicable PQL, must be reported to the Illinois EPA. Therefore, Lonza must not only report concentrations obtained for Acetone from each sampling event, but also report the concentration of any other constituent capable of being detected by SW-846 Method 8260B.

2. At the conclusion of the Third Quarter 2000 sampling event, a plan must be submitted to the Illinois EPA to complete closure of the subject impoundment relative to groundwater. This plan must be submitted for the Illinois EPA's review and approval by October 15, 2000 and be

File: 1438050005
ILD001643659
Lonza Inc
RCRA Closure

FILE

LONZA

The original and the WPC permit application where sent to WPC 9/4/90. Dave

LONZA INC., P.O. Box 105, Mapleton, Illinois 61547 — Tel. (309) 697-5400 — TWX-910-652-0137

LWE, this is proposing closure of a new LDF (surface impoundment). Shouldn't RCRA unit handle w/ GW unit when it arrives? CAZ 9-13

September 5, 1990

Larry Eastep
Illinois Environmental Protection Agency
Division of Land Pollution
2200 Churchill Road
P.O. Box 19276
Springfield, IL 62794-9276

Dear Mr. Eastep:

On April 11, 1990, Lonza representatives Bruce Davey, Ron Cloat, and Nancy Passow met with Ted Dragavitch and Doug Clay from your office to discuss our current procedure for discharge of wastewater to our on-site lagoon. Based on the discussion of the applicable regulations, Lonza committed to furnish a plan and schedule for ensuring compliance. With this letter, we are providing our plan and schedule.

ENSR Consulting and Engineering has been retained to identify applicable regulations, recommend a course of action, prepare a closure plan and provide assistance as required to ensure compliance.

ENSR is currently preparing a RCRA closure plan and ground water monitoring waiver request. These documents will be submitted by the end of September.

Our out of pH specification stream must be neutralized before entering the lagoon. Design of a neutralization unit is complete and an application for a construction permit is being submitted to the I.E.P.A. water pollution control division with a copy of this letter. The design and permit application has been reviewed and approved by the local P.O.T.W. (Greater Peoria Sanitary District).

The neutralization project will be initiated as soon as we receive the approved construction permit. Construction of the unit is expected to take 6 to 8 months depending on equipment delivery.

If you have any questions about our plans or the schedule for completion, please contact us at your convenience.

Regards,

Ron E. Cloat
Safety & Environmental Manager
LONZA INC.

enc: Construction Permit Application
(Division of Water Pollution and ESE only)

cc: Illinois Environmental Protection Agency
Division of Water Pollution Control
Permit Section
2200 Churchill Road
Springfield, IL 62794-9276

Paul Keturi
Greater Peoria Sanitary District
2322 Darst Street
Peoria, IL 61607

ENSR Consulting & Engineering
740 Posquinelli Dr.
Westmont, IL 60559

ESE
8901 North Industrial Road
Peoria, IL 61615

TJD
PLC
Rondle

LONZA

LONZA INC., P.O. Box 105, Mapleton, Illinois 61547 — Tel. (309) 697-5400 — TWX-910-652-0137

March 21, 1990

Larry Eastep
Manager, Division of Land Pollution
Illinois Environmental Protection Agency
P.O. Box 19276
Springfield, IL 62794-9276

Dear Larry;

I spoke with Charles Zeal from your permits group today to request a meeting with someone from your division. We have an in-process, pre-treatment situation and some long range plans that we wish to discuss with the Agency.

Please let me know when you can schedule a meeting. For openers, we can come to Springfield any time on 3/29 or 3/30.

Thanks for your consideration.

Regards,

Ron Cloat
Safety & Environmental Manager
LONZA INC.

REC/cu

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY MEMORANDUM

DATE: January 17, 1991

1438050005/Peoria
Lonza, Inc.
ILD001643659
RCRA Closure

TO: LPC File (Both Central & Regional)

FROM:

SUBJECT: Lonza, Inc.
Public Notice #90042
C 564

NOTICE OF CLOSURE

Notice of closure of the Lonza, Inc. hazardous waste treatment lagoon located in Mapleton, Illinois first appeared December 7, 1990 in the Pekin Daily Times. The public comment period ended January 7, 1991. No comments were received by this office.

AB:kw/20-1

cc: Amy Dragovich
Virginia Wood

Facility No.: 1438050005
Public Notice: 90042

Date: November 29, 1990

NOTICE OF CLOSURE
CLOSURE NO. C564

A plan to close the Lonza, Inc. hazardous waste treatment lagoon located on US Route 24 in Mapleton, Illinois, has been submitted to the Illinois Environmental Protection Agency (IEPA) pursuant to Subpart G of 35 Ill. Adm. Code 725. The facility manufactures organic chemical intermediates and specialty chemical materials for use in the formulation of antimicrobials, detergents, cosmetics, food, and general industrial products.

At this time the IEPA is also requesting that the facility provide information concerning any prior release of hazardous waste constituents from any solid waste management facility on the site.

Interested persons are invited to submit written comments on the plan or request modifications of the plan or provide information on the release, at any time, of hazardous waste constituents from the facility, within 30 days of the first publication date of this notice. Written comments must be addressed to the IEPA, Government & Community Affairs, Attn: Amy Brown, 2200 Churchill Road, P.O. Box 19276, Springfield, Illinois 62794-9276.

The site must be closed in accordance with the standards set forth in the Environmental Protection Act, Ill. Rev. Stat., Ch. 111 1/2, Pars. 1001 et seq., and regulations adopted thereunder.

The proposed closure plan, closure performance requirements, and other documents are available for inspection and may be copied at the IEPA's Springfield headquarters. There is no charge for the first 400 pages copied. There is a 25 cents charge for each page copied over 400.

An appointment to inspect the proposed closure plan must be made in advance by contacting the Division of Land Pollution Control, Freedom of Information Act (FOIA) coordinator at 2200 Churchill Road, P.O. Box 19276,

Springfield, Illinois 62794-9276, 217/782-6760. Please refer to the closure number under the heading at the top of this advertisement when contacting the FOIA coordinator.

In response to requests or at the discretion of the IEPA, a public hearing may be held to clarify one or more issues concerning the closure plan. Public notice will be issued 30 days before any public hearing.

AB:jas/4030n,90-91

LONZA

LONZA INC., P.O. Box 105, Mapleton, Illinois 61547 – Tel. (309) 697-5400 – TWX-910-652-0137

September 28, 1981

Mrs. Lynn Crivello
Environmental Protection Specialist
Land Field Operations Section - Central Region
Division of Land/Noise Pollution Control
4500 South Sixth Street Road
Springfield, Illinois 62706

Mrs. Crivello:

Attached is a copy of the Lonza Mapleton Facility Closure Plan that you requested as a part of your inspection on September 21, 1981 in connection with the U.S. Environmental Protection Agency, Resource Conservation and Recovery Act regulations. This closure plan has been incorporated into the plant "Hazardous Waste Policy and Procedure Manual".

If you have any questions concerning the enclosed closure plan, please feel free to contact me.

Regards,

R. O. Wallace
Corporate Safety Engineer

Attachments

ROW/vj

P.S. The additional information you requested is being prepared and will be forwarded as soon as practical.

9.0 Lonza Mapleton Facility Closure Plan

This plan outlines the required activities necessary to discontinue tank and drum storage of hazardous waste at the Mapleton plant in accordance to Federal RCRA regulations.

9.1 Potential Closure Schedule (None anticipated)

The Mapleton plant is a chemical manufacturing facility and not a hazardous waste facility. The Mapleton plant has been permitted as a treatment and storage facility to assure that hazardous waste may be stored for more than 90 days if the need arises, due to the inability of the plant to dispose of hazardous waste in a permitted landfill, treatment or disposal site within that time frame.

9.2 Maximum Hazardous Waste on Hand

Brine Waste	Maximum Volume
Brine	25,500 gallons
Amines Residue	20,500 gallons
Misc. Drummed Waste	1,100 gallons (10-55 gal. drums)

9.3 Decontamination Procedures - This procedure covers the required steps to clean and decontaminate the:

- Brine tanks
- Amines Residue Tank
- Drum Storage Area

9.3.1 Brine tank cleaning procedure -

Step #1 - Pump tanks empty of all liquid contents and transport the liquid to a permitted landfill for disposal in accordance with the established procedures under the State and Federal EPA regulations.

Step #2 - Place solid residual (Salt) left in the bottom of T-241 and T-242 in 55 gallon drums (10 drums).

Step #3 - Final cleaning of T-241 and T-242 will be by flushing out tanks with rinse water and placing the rinse water into 55 gallon drums. The volume of rinse water for cleaning T-241 and T-242 is estimated to be 275 gallons per tank or 550 gallons total (10 drums). Tanks will be inspected and certified cleaned for general production use.

Step #4 - The representative sample of the solid salt (NaCl) and rinse water will be analyzed for pH and heavy metals content. Where analysis determines that the material is non-hazardous per RCRA regulations, the contents of the drums will be placed in the lagoon. If determined to be hazardous, the drummed material will be transported to a permitted landfill for disposal in accordance with State and Federal regulations.

Cost of Closure -

10 drums Solid Salt - 10 drums @ $50/drum	=	$ 500
10 drums rinse water - 10 drums @ $50/drum	=	500
Total Cost		$1,000

9.3.2 Amines Residue Tank Cleaning Procedure -

Step #1 - Pump tank empty and ship to approved landfill in accordance with State and Federal regulations.

Step #2 Steam clean the interior of the tank and drain rinse water into 55 gallon drums for disposal as a hazardous waste. This procedure is estimated to require 275 gallons of steam condensate. (5 drums of rinse water.)

Step #3 - The tank will be inspected to insure that all Amines residue has been removed and the tank will then be returned to general production use.

Step #4 - Final clean out costs (Amines Residue tank). The Amines residue tank rinse water will be transported to a

9.3.2 (Cont'd)

permitted landfill for disposal in accordance with State and Federal regulations.

Cost of Closure -

5 drums of rinse water - 5 drums @ $50/drum = $250 (Total Cost)

9.3.3 Drum Storage (Non Specific Hazardous Waste)

A drummed material will be identified & where necessary, analyzed to classify as hazardous or non hazardous. All hazardous material will be transported to a permitted landfill for disposal in accordance with State and Federal regulations.

Cost of Closure (drum storage area)

Non-Specific Hazardous waste - 20 drums @ $50/drum = $1,000 (Total cost)

C564

Peoria Co. 1438050005

~~CAR~~ → ALD

LONZA

CC Region 3-7-91

1438050005- Peoria
Lonza, Inc.
ILD001643659
RCRA Closure

LONZA INC., P.O. Box 105, Mapleton, Illinois 61547 – Tel. (309) 697-5400

February 28, 1991

Larry Eastep
Illinois Environmental Protection Agency
Division of Land Pollution Control
Permit Section
Box 19276
Springfield, IL 62794-9276

Dear Mr. Eastep:

We received your letter disapproving our lagoon closure plan on 2/19/91 and have arranged to meet with members of your staff 3/8/91 to clarify our understanding of the requirements.

We need a clear understanding of the requirements before we can develop an action plan and completion schedule. We are very concerned about the timing requested in your letter in that there is no practical way we can meet the deadlines shown.

Some of the additional information that was requested is being prepared. We are committed to developing an environmentally sound solution to this problem and we are looking forward to a productive meeting.

Regards,

Ron Cloat
Safety & Environmental Manager
Lonza Inc.

REC/ta

C-564 P3673880600 file

Illinois Environmental Protection Agency · P. O. Box 19276, Springfield, IL 62794-9276

217/782-6762

Date Received: November 20, 1990
Log #C-564

Refer to: 1438050005 -- Peoria County
Lonza, Inc.
ILD001643659
RCRA-Closure

February 15, 1991

Lonza, Inc.
Attn: Mr. Ron Cloat
Post Office Box 105
Mapleton, Illinois 61547

Dear Mr. Cloat:

The closure plan for the hazardous waste treatment surface impoundment (T02) submitted by Lonza, Inc. and prepared by ENSR Consulting and Engineering has been reviewed.

Due to the following deficiencies, the plan has been disapproved.

1. DESCRIPTION OF THE FACILITY - Additional detail must be provided on the processes that generate the three waste streams discharged to Lagoon 1. This information must identify any raw materials, chemicals and/or products that are used at the facility in these production processes.

2. DESCRIPTION OF THE WASTE MANAGEMENT UNITS - Page 2-1 of the closure plan indicates that the waste streams are only hazardous based on the characteristic of corrosivity. However, the only laboratory analysis provided is for pH. Additional analysis must be performed on each waste stream to verify Lonza's determination. This analysis should include Methods 8240 and 8270 of the latest edition of SW-846 and all the hazardous waste characteristics. This analysis must be performed on the waste streams prior to their introduction to the inpoundments.

   Page 2-4 of the closure plan indicates that only the first impoundment is RCRA regulated. However, no analysis has been provided for the influent to Lagoon 2. In addition, analysis of the effluent of the second lagoon has indicated several volatile and semi-volatile organics are present. Therefore, additional analysis of the influent to Lagoon 2 should be provided. This analysis should include Methods 8240 and 8270 of the latest edition of SW-846 and all the hazardous waste characteristics.

3. SCHEDULE FOR CLOSURE - Page 2-5 of the closure plan application and Figure 4-1 indicate an elementary neutralization unit will be constructed prior to closure. Please be advised that these surface impoundments are not permitted to accept hazardous or non-hazardous waste. Pursuant to 35 IAC 703.157, these surface impoundment units lost any interim status privileges on November 8, 1985. In addition, pursuant to 35 IAC 725.213(e), an adjusted standard must be obtained from the Illinois Pollution Control Board in order to even receive non-hazardous wastes in

these RCRA regulated units. Therefore, the surface impoundments must cease receipt of the waste streams immediately. 35 IAC Section 703.121 states that no person shall conduct any hazardous waste storage, hazardous waste treatment or hazardous waste disposal operation without a RCRA permit for the hazardous waste management facility.

4. SOIL CLEANUP LEVELS - Clean closure of a storage or treatment unit requires removal or remediation of all wastes, leachate, liners and soils (including groundwater) contaminated with waste or leachate that pose a substantial present or potential threat to human health or the environment. The owner/operator has the options of removing or remediating soil to Agency approved detection limits/background levels of the contaminant or to propose a site-specific, health-based cleanup level.

   A site-specific cleanup level proposal must document that the contaminants left in the soil will not adversely impact any environmental media (groundwater, surface water or atmosphere), and that direct contact through dermal exposure, inhalation or ingestion will not result in a threat to human health or the environment. USEPA is currently developing a guidance document for clean closure. Until this document becomes available, owner/operators should refer to 52 FR 8706 (March 19, 1987) for demonstration references. If a model will be used to justify site-specific cleanup criteria, site conditions must match the assumptions of the model. Toxicity information for hazardous constituents (35 IAC Part 721, Appendix H) can be obtained from EPA's Office of Solid Waste, Characterization and Assessment Branch, 202/382-4761. Soil cleanup levels, as well as groundwater cleanup levels, will depend to a great extent on the existing and potential use of groundwater and/or surface water in the area surrounding the facility. Information and documentation regarding existing and potential use of groundwater and/or surface water in the area surrounding the facility should be provided to justify a proposed site-specific, health-based cleanup level. More specifically, the owner/operator should contact the IEPA Division of Public Water Supplies (DPWS) at 217/785-8653, Illinois Department of Public Health (Springfield) at 217/782-5830, the Illinois State Water Survey (Champaign) at 217/333-8497, and the Illinois State Geological Survey (Champaign) at 217/333-4747 to gather information to determine the existing and potential type and extent of groundwater and/or surface water use in the area. Local water use restrictions or zoning rules that restrict or regulate the use of groundwater and/or surface water should also be identified.

5. SAMPLING PLAN AND ANALYTICAL METHODS - Closure of hazardous waste management units must include sampling of sludge/soil to demonstrate clean closure or to determine the nature and extent of soil contamination. Analysis of the waste water only is not adequate. If possible, your sampling program should be extensive enough to determine the lateral and vertical extent of contamination to the level of the Practical Quantitation Limit (PQL) identified in SW-846 (Third Edition) for the constituents of the waste(s) managed. All samples which are to be taken must be handled in accordance with 40 CFR, Part 261, Appendix III and the soil volatile sampling procedures which are included in the Agency's closure plan instructions as Attachment 7. The analytical methods which will be used must be specified and must be EPA-approved.

An adequate soil sampling and analysis plan should include the following:

a. parameters to be analyzed (consider waste(s) managed, degradation products, hazardous constituents identified in analysis of the waste streams, etc.)

b. locations of samples (horizontal location and depth)

c. background samples (when applicable)

d. sampling methods and equipment

e. analytical methods. Include a description of any statistical methods which may be used to interpret the analytical data.

f. evidence of a quality assurance/quality control plan for laboratory analyses

The Quality Assurance Plan and Health and Safety Plan referenced on Page 3-1 of the closure plan must be submitted as part of the closure plan.

6. DESCRIPTION OF CONTAMINATED SOIL REMOVAL - Any facility which is attempting to close "clean" must fully describe each step in removing waste and contaminated soil from the property. This includes a description of solidification/stabilization, storage of waste or reagents, equipment, removal pattern and depth increments, loading areas or any other steps critical to removal. The plan should clearly define how soil will be removed, stored, loaded and managed once it leaves the property.

   Unlike CERCLA cleanups, there is no permit exemption available for on-site hazardous waste storage and treatment units which are created during RCRA closure. Interim status facilities may request the addition of such units to their Part A if proper justification is provided (35 IAC Section 703.155), but facilities with a RCRA Part B would have to obtain a permit modification prior to adding the unit. Facilities which have neither interim status nor a Part B permit may have to obtain a Part B permit before a storage or treatment unit can be constructed for closure purposes.

7. DESCRIPTION OF EQUIPMENT CLEANING - Any equipment, including heavy earth-movers or smaller tools, should be scraped and washed to remove waste residues. The residues should be managed as special waste, and this cleaning and management should be described in the closure plan. All wash and rinse water must be collected. If the wash or rinse water samples exhibit a characteristic of hazardous waste then that material must be managed as a hazardous waste. In any event the material must be managed as a special waste. The surface impoundments at the facility are not permitted to accept special waste.

8. STATEMENT OF FACILITY STATUS AFTER CLOSURE - Page 3-1 of the closure plan indicates Lonza intends to continue using the impoundments to manage

non-hazardous wastewater after closure. 35 IAC Sections 725.213 (d) and (e) state the Agency shall permit an owner or operator to receive non-hazardous wastes in a surface impoundment unit after the final receipt of hazardous wastes at that unit if (1) the owner or operator submits an amended Part B application, or a new Part B application if one was previously submitted and (2) an owner or operator of a hazardous waste surface impoundment which is not in compliance with the liner and leachate collection system requirements shall receive non-hazardous wastes only as authorized by an adjusted standard. The Agency has no authority to issue any permit which is inconsistent with Board regulations. In accordance with 35 Ill. Adm. Code Section 725.213(e)(8), any facility seeking an adjusted standard must petition the Board pursuant to 35 Ill. Adm. Code 106.

9. CLOSURE COSTS - The closure cost estimate should be revised to include sludge/soil sampling, the sampling of the three waste streams, impoundment dewatering, the removal and disposal of sludge, liners and soil, and the installation, monitoring and maintenance of groundwater monitoring wells.

10. POST-CLOSURE CARE PLAN - The closure plan for any disposal unit (hazardous waste left in the unit) must include an interim status post-closure plan in accordance with the requirements of Part 725 Subpart G. Owners and operators of waste management units which received wastes after July 26, 1982 or that certified closure according to 35 IAC 725.215 after January 26, 1983 are required to submit an application for a Post-Closure Permit meeting the requirements of 35 IAC, Part 724 upon request from the IEPA (35 IAC 703.121(b), 40 CFR 270.1(b) and (c)).

11. GROUNDWATER MONITORING - The Agency has also reviewed the groundwater monitoring waiver demonstration submitted by Lonza and has determined that the waiver is not applicable to this facility. Owners or operators of surface impoundments closing by removal or decontamination (which qualify for interim status and received waste after July 26, 1982) must meet the groundwater monitoring and corrective action standards found in Subpart F to 35 IAC Part 724 (35 Ill. Adm. Code Section 703.121(b) and 52 FR 8705 March 19, 1987). Statuatory authority is contained in Section 3005(i) of the 1984 Hazardous and Solid Waste Amendments of RCRA (HSWA). 35 IAC Part 724 does not contain provisions for a groundwater monitoring waiver demonstration. In addition, as explained in comment 3 above, this facility lost interim status privileges on November 8, 1985. This invalidates the application of the waiver requested pursuant to 35 IAC 725.190(e). Therefore, groundwater monitoring is required to demonstrate clean closure (i.e., closure by removal) for the surface impoundment.

    Lonza must submit a site-specific hydrogeologic report which includes proposals for a Subpart F groundwater monitoring program. This report should contain sufficient detail to support specific proposals for the groundwater monitoring program (e.g., well spacing, screen intervals, etc...) with regard to the hazardous wastes and constituents that were handled in the surface impoundment storage area, the physical and chemical properties of those wastes, the nature of apparent releases to soil and/or

groundwater (e.g., aqueous vs. non-aqueous phase liquids), and with respect to hazardous waste constituents that could reasonably be expected to be derived from the waste materials handled in these areas. At a minimum, an acceptable groundwater monitoring proposal would consist of three nested/clustered monitoring wells located hydraulically downgradient of the unit to monitor the unconfined and confined aquifers, and one well nest/cluster located hydraulically upgradient of the unit.

The site specific hydrogeologic report should identify the uppermost aquifer and any other hydraulically connected aquifers (including man-made conduits). This report should describe the geologic properties of the aquifer(s), including groundwater flow direction(s), rate(s) of flow, vertical and horizontal components of groundwater flow (i.e., flow gradients), hydraulic conductivities, depth(s) and elevation(s) of the aquifer(s), and confining layers for the aquifers of concern. Diagrams of geologic cross-sections should be submitted to depict the geologic conditions in relation to groundwater. Boring logs and well construction diagrams and information obtained from the boring program should be submitted as part of this report.

Pursuant to 35 IAC 725.212(d)(4), you must submit a complete, revised closure plan (i.e., not just revised or additional pages) (one original and 3 copies) within thirty (30) days which adequately responds to the above noted comments. Failure to submit a revised plan within thirty (30) days of the date of your receipt of this letter will be considered non-compliance with the interim standards of 35 IAC, Part 725, Subpart G -- Closure and Post-closure and Subpart H -- Financial Requirements.

Should you have any questions concerning this matter, please contact Amy L. Dragovich, P.E., at 217/782-6762.

Very truly yours,

Lawrence W Eastep by ALD

Lawrence W. Eastep, P.E., Manager
Permit Section
Division of Land Pollution Control

LWE:ALD:kkw/0426q,31-35

cc: Peoria Region
Division File, Closure
George Hamper, USEPA Region V
Amy Dragovich
Planning & Reporting Section
Enforcement
Groundwater Unit - Terri Myers
DWPC Permits

Illinois Environmental Protection Agency · P. O. Box 19276, Springfield, IL 62794-9276

MEMORANDUM

DATE: March 18, 1991

TO: Division File, RCRA Closure

FROM: Amy L. Dragovich, DLPC Permits

SUBJECT: 1438050005 -- Peoria County
Lonza, Inc.
ILD001643659
RCRA Closure
Meeting with Lonza March 8, 1991

A meeting was held March 8, 1991 in Springfield, Illinois between the Agency and representatives of Lonza to discuss the recent closure plan disapproval letter, dated February 15, 1991.

Bruce Davey started the meeting by explaining the different processes at the facility. He handed out a process flow diagram and a list of major raw materials. He explained 4 waste streams come out of the facility. The sorbitol plant has two waste streams generated from an ion exchange system.

1) p < 1 (HcL)
2) pH = 12 or 13 (NaOH)

Approximately 30,000 gal/day of these waste streams combined are discharged directly into the impoundments.

The HCL scrubber waste has a pH < 1 and approximately 1500 gal/day of this waste stream is discharged directly into the impoundments.

The amines plant waste is pumped through 3 tertiary basins prior to discharge to the impoundments. After the first basin, the organics are recovered and sent off-site. The pH of this waste is usually 9-11 and approximately 20,000 gal/day of this waste stream is discharged to the impoundments.

The second lagoon is connected to the first lagoon by an underflow line. The effluent from the second lagoon is trucked to the POTW.

They explained the analysis provided in Appendix C is the analysis into the first lagoon. They have also submitted permits for the construction of the elementary neutralization unit. They have received approval for this construction permit. They are also considering installing an 8 1/2 mile pipeline from the facility to the POTW.

We then went through the disapproval letter.

Item 1 - They have provided a list of raw materials and a process line schematic. I explained as long as this was what could possibly be in the waste streams that would be acceptable.

Item 2 - They explained that the analysis provided in Appendix C is a composite over a 24 hour period for the sorbitol and amines influent. The two composite samples are then composited together for the laboratory analysis. Charlie explained that this paragraph was included to not only address the organics we thought were in the effluent from Lagoon 2, but to ensure the waste going into the impoundments was not characteristically hazardous.

They also pointed out that the pH analysis for Lagoon 2 influent was provided in Appendix A.

Item 4 - Charlie explained that to demonstrate a "clean" closure, we will need some soil sampling, in addition to the sludge sampling. The soil/sludge samples should be analyzed for a broad base of parameters to determine a subset for sampling. This way only a few sample locations would require the extensive list. Parameters detected in this initial sampling would need to be included in the sampling required for "clean" closure.

Items 6 and 7 - They said they will address these issues just in case they are needed.

Item 8 - They feel they should be able to do what they want with the impoundments after they are certified closed. Charlie explained that once they are certified closed, the impoundments shouldn't be RCRA regulated if they use them for only non-hazardous waste. However, Sections 725.213(d) and (e) are not very clear.

Item 9 - The closure cost estimate needs to be itemized to include these additional costs.

Item 10 - We explained this is a standard paragraph to make them aware of the regulations.

Item 11 - Charlie and Kenn explained that this facility should of applied for a Part B Permit in 1985. The deadline for issuance of land disposal Part B's was November 8, 1988. This Part B would have required groundwater monitoring pursuant to 724. Therefore, they have gotten out of at least two years of groundwater monitoring. They also have not retrofitted the impoundments. Charlie explained that even if they had applied for the waiver back in 1985, it might not have been approved. If a Part B would have been issued, any waiver previously awarded would have been re-evaluated.

35 IAC Part 724 does not provide for any groundwater monitoring waivers. Since they have missed the deadlines for obtaining interim status, they do not qualify to operate under the interim status requirements (725).

Item 3 - Charlie explained that the Agency does not have the authority to grant this type of waiver. They would have to get a variance from the Board. Mark Gurnik explained the procedures are outlined in the Act and the Board rules. They asked how long the variance procedure takes. Mark said that is outlined in the rules. The Agency would be asked for a recommendation from the Board.

They will send a letter outlining what they will be able to accomplish by the March 19th deadline and a schedule for the rest.

John Tripses also explained that their three tertiary basins could be regulated as storage. They do not know if this is permitted by DWPC.

ALD:rlc/629q,37-39

Meeting with Lonza - March 8, 1991

Name	Organization	Phone
Amy Pagorski	IEPA/DLPC Permits	217/782-6762
Terri Myers	IEPA/RCRA	217/782-6761
John Tripses	IEPA/DLPC-FOS-Peoria	309/693-5462
Kenn Liss	" " Permit	217/782-6760
CHARLIE ZEAL	IEPA "	217-782-6762
MARK HANEY	ENSR CORP.	508/655-9500
Dale Helmers	" "	(708) 887-1700
DAVID Eastman	Lonza Inc.	201 794-2494
Nancy Passow	Lonza	201-794-2701
BRUCE DAVEY	LONZA	309 697 5400
RON CLOAT	"	" " "
KEVIN MURPHY	LATHAM; WATKINS	312-876-7700
Gary V. Davis	IEPA/Division Legal Counsel	217-782-5544

LONZA

DAVID W. EASTMAN, Ph.D.
Vice President, Technology
201-794-2494

LONZA INC.
Corporate Headquarters, 17-17 Route 208
Fair Lawn, NJ 07410, Telephone 201-794-2400

LONZA

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Plant Manager
Specialty Chemicals Division
309-697-5400 Ext. 120

LONZA INC.
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LONZA

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Manager, Environmental Affairs
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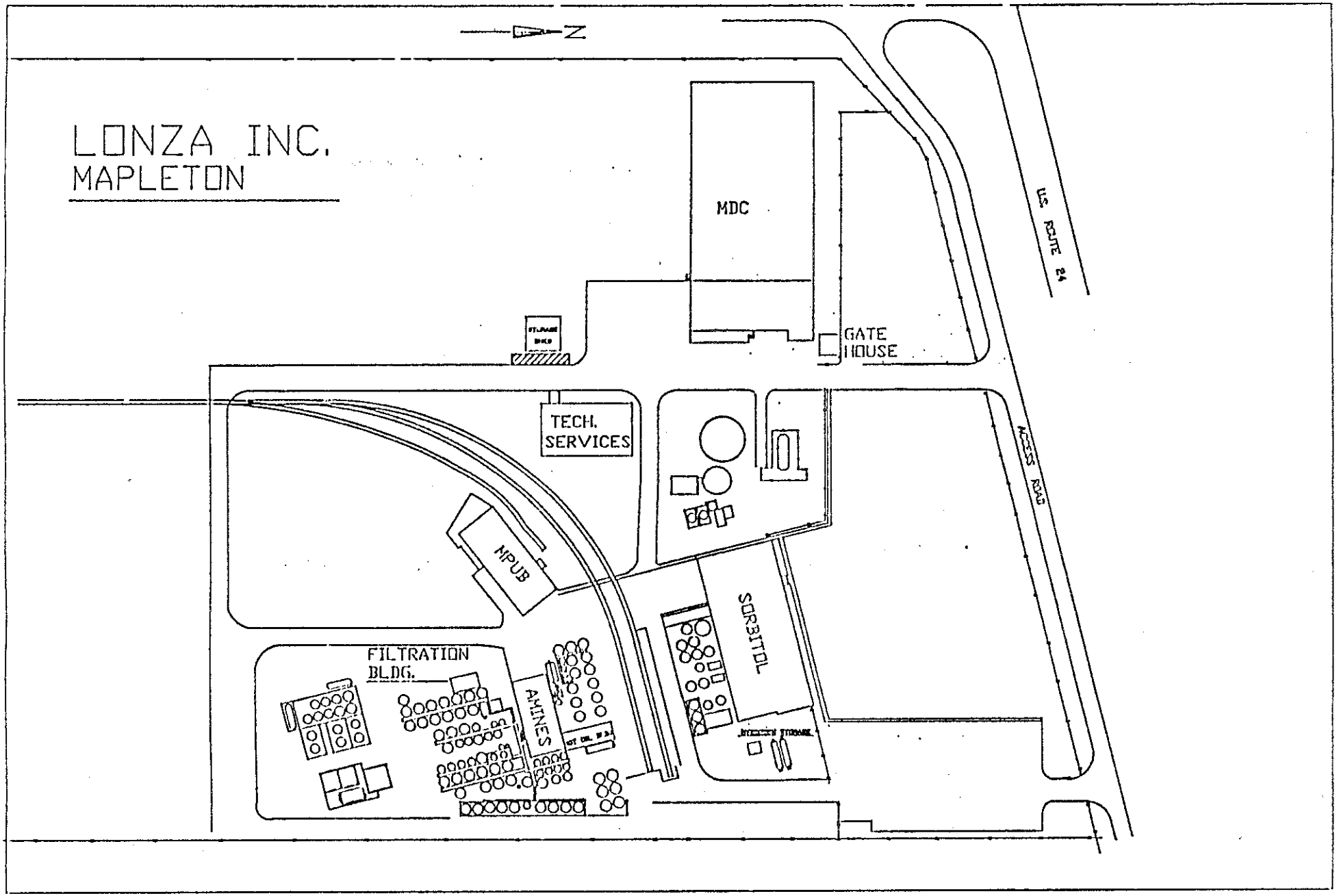
1-800-777-1875, Telex 4754135, FAX 201-794-1041

Dale A. Helmers
Senior Project Manager

ENSR

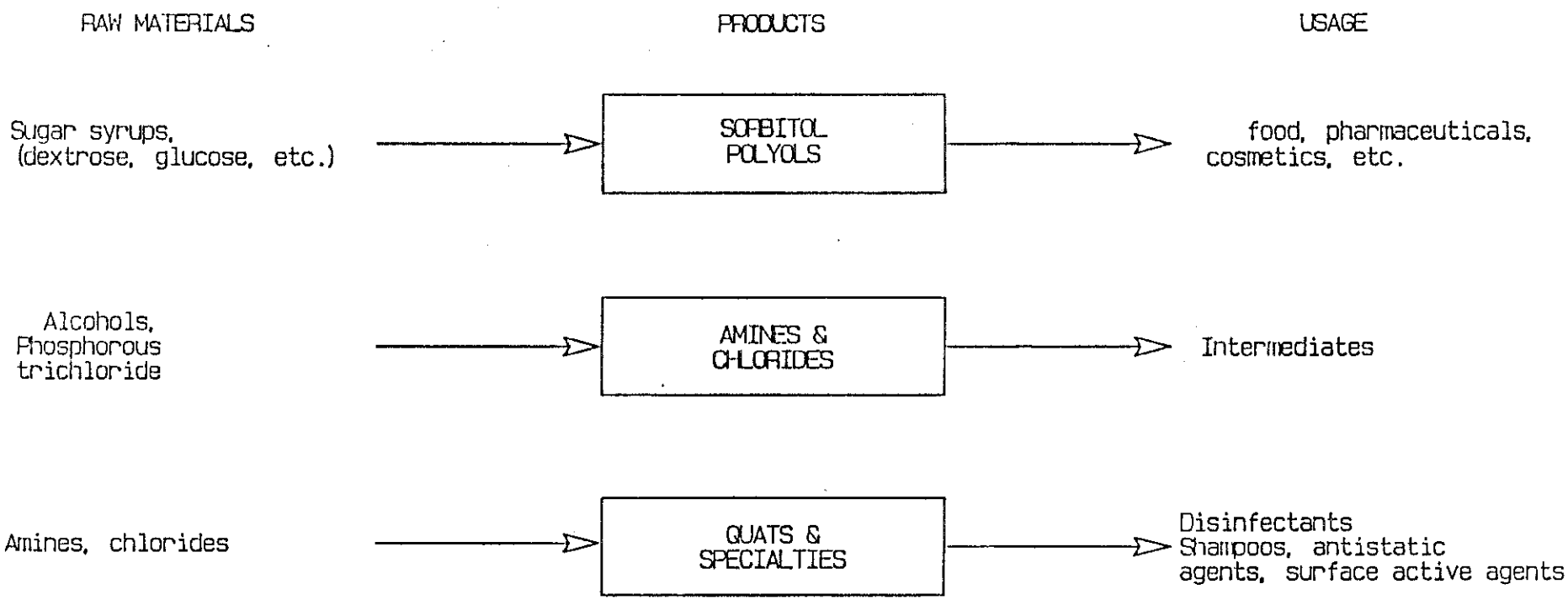
Formerly ERT

ENSR Consulting and Engineering
740 Pasquinelli Drive
Westmont, Illinois 60559
(708) 887-1700


N
LONZA INC.
MAPLETON
MDC
US ROUTE 24
GATE HOUSE
TECH. SERVICES
ACCESS ROAD
MPUB
SORBITOL
FILTRATION BLDG.
AMINES

L O N Z A
MAPLETON

MAJOR PRODUCT LINES



LONZA MAPLETON PLANT
MAJOR RAW MATERIALS

Dextrose and other corn syrups

Hydrogen

Long chain fatty alcohols

Phosphorous Trichloride

Methyl Amines

Benzyl Chloride

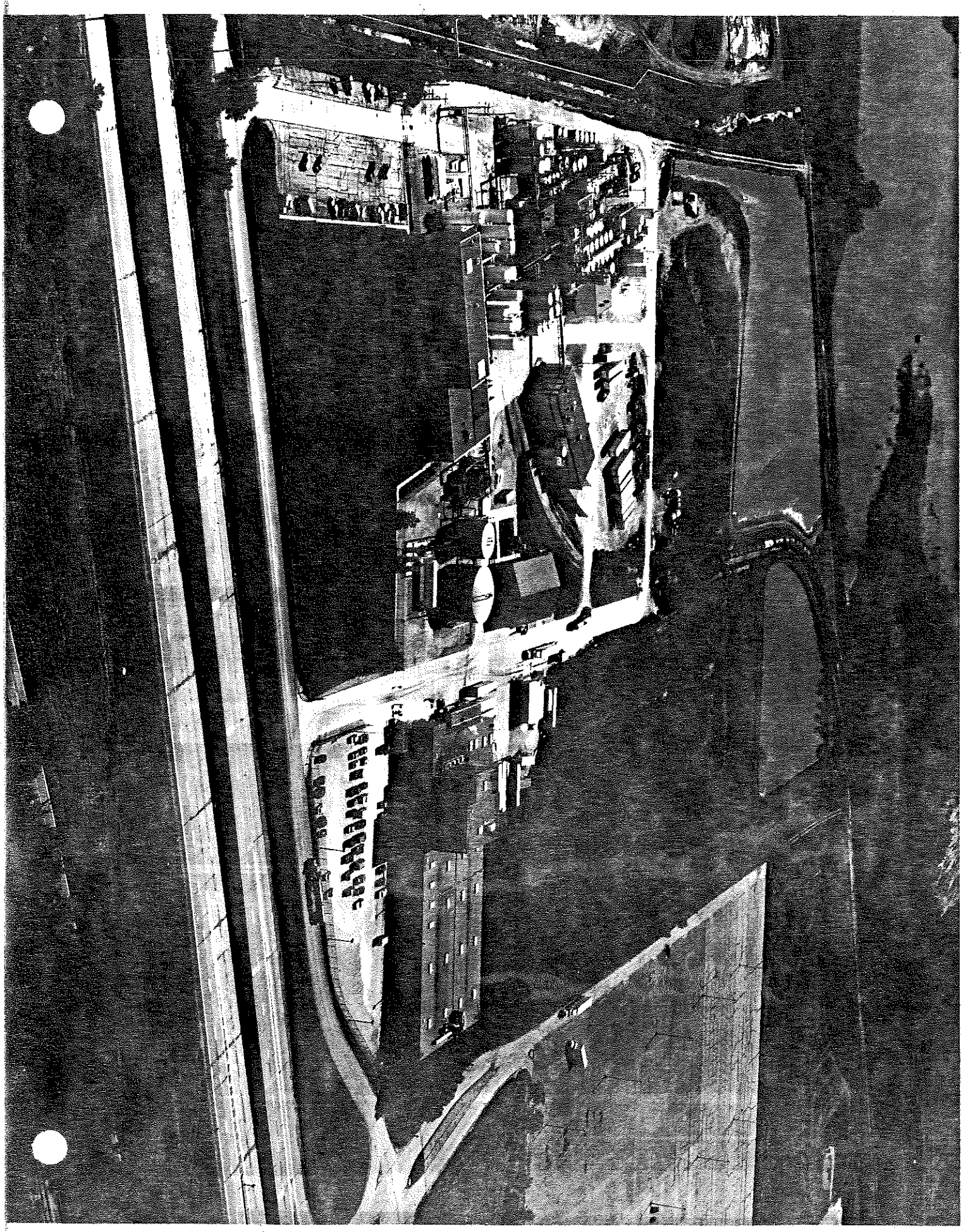
Ethanol

Isopropanol

Sodium Hydroxide

Hydrochloric Acid

Hydrogen Peroxide



D. Corrective Action

CORRECTIVE ACTION STABILIZATION QUESTIONNAIRE

Completed by: Cathy M. Collins
Date: March 16, 1994

Background Facility Information

Facility Name: Lonza, Inc.
EPA Identification No.: ILD 001 643 659
Location (City, State): Mapleton, Illinois
Facility Priority Rank: Moderate

1. Is this checklist being completed for one solid waste management unit (SWMU), several SWMUs, or the entire facility? Explain.

Entire facility consisting of 10 SWMUs and 1 AOC

Status of Corrective Action Activities at the Facility

2. What is the current status of HSWA corrective action activities at the facility?

( ) No corrective action activities initiated (Go to 5)
(X) RCRA Facility Assessment (RFA) or equivalent completed
( ) RCRA Facility Investigation (RFI) underway
( ) RFI completed
( ) Corrective Measures Study (CMS) completed
( ) Corrective Measures Implementation (CMI) begun or completed
( ) Interim Measures begun or completed

3. If corrective action activities have been initiated, are they being carried out under a permit or an enforcement order?

( ) Operating permit
( ) Post-closure permit
( ) Enforcement order
(X) Other (Explain)

Past corrective actions appear to have been voluntary.

4. Have interim measures, if required or completed [see Question 2], been successful in preventing the further spread of contamination at the facility?

( ) Yes
( ) No
( ) Uncertain; still underway
(X) Not required

Additional explanatory notes:

Interim measures have not been officially required.

Facility Releases and Exposure Concerns

5. To what media have contaminant releases from the facility occurred or been suspected of occurring?

(X) Groundwater
(X) Surface water
( ) Air
(X) Soils

6. Are contaminant releases migrating off-site?

( ) Yes; Indicate media, contaminant concentrations, and level of certainty.

Groundwater:
Surface water:
Air:
Soils:

( ) No
(X) Uncertain

7a. Are humans currently being exposed to contaminants released from the facility?

( ) Yes (Go to 8a)
( ) No
(X) Uncertain

Additional explanatory notes:

It is not known if contamination has migrated off site.

7b. Is there a potential for human exposure to the contaminants released from the facility over the next 5 to 10 years?

(X) Yes
( ) No
( ) Uncertain

Additional explanatory notes:

Surface water within a few hundred feet of the facility is used for recreational, industrial, agricultural, and municipal water supply.

8a. Are environmental receptors currently being exposed to contaminants released from the facility?

( ) Yes (Go to 9)
( ) No
(X) Uncertain

Additional explanatory notes:

It is not known if contamination has migrated off site.

8b. Is there a potential that environmental receptors could be exposed to the contaminants released from the facility over the next 5 to 10 years?

(X) Yes
( ) No
( ) Uncertain

Additional explanatory notes:

Facility was originally wetland area that was altered for current land use.

Anticipated Final Corrective Measures

9. If already identified or planned, would final corrective measures be able to be implemented in time to adequately address any existing or short-term threat to human health and the environment?

( ) Yes
(X) No
( ) Uncertain

Additional explanatory notes:

Final corrective measures have not been identified or planned.

10. Could a stabilization initiative at this facility reduce the present or near-term (e.g., less than two years) risks to human health and the environment?

( ) Yes
( ) No
(X) Uncertain

Additional explanatory notes:

Further information on the nature and extent of contamination is needed.

11. If a stabilization activity were not begun, would the threat to human health and the environment significantly increase before final corrective measures could be implemented?

( ) Yes
( ) No
(X) Uncertain

Additional explanatory notes:

Further information on the nature and extent of contamination is needed.

Technical Ability to Implement Stabilization Activities

12. In what phase does the contaminant exist under ambient site conditions? Check all that apply.

( ) Solid
( ) Light non-aqueous phase liquids (LNAPLs)
( ) Dense non-aqueous phase liquids (DNAPLs)
(X) Dissolved in groundwater or surface water
( ) Gaseous
( ) Other _____

13. Which of the following major chemical groupings are of concern at the facility?

(X) Volatile organic compounds (VOCs) and/or semi-volatiles
( ) Polynuclear aromatics (PAHs)
( ) Pesticides
( ) Polychlorinated biphenyls (PCBs) and/or dioxins
( ) Other organics
( ) Inorganics and metals
( ) Explosives
(X) Other Alkaline wastewater

14. Are appropriate stabilization technologies available to prevent the further spread of contamination, based on contaminant characteristics and the facility's environmental setting? [See Attachment A for a listing of potential stabilization technologies.]

( ) Yes; Indicate possible course of action.

(X) No; Indicate why stabilization technologies are not appropriate; then go to Question 18.

Further information on the nature and extent of contamination is needed.

15. Has the RFI, or another environmental investigation, provided the site characterization and waste release data needed to design and implement a stabilization activity?

( ) Yes
( ) No

If No, can these data be obtained faster than the data needed to implement the final corrective measures?

( ) Yes
( ) No

Timing and Other Procedural Issues Associated with Stabilization

16. Can stabilization activities be implemented more quickly than the final corrective measures?

( ) Yes
( ) No
( ) Uncertain

Additional explanatory notes:

17. Can stabilization activities be incorporated into the final corrective measures at some point in the future?

( ) Yes
( ) No
( ) Uncertain

Additional explanatory notes:

Conclusion

18. Is this facility an appropriate candidate for stabilization activities?

( ) Yes
( ) No, not feasible
( ) No, not required
(X) Further investigation necessary

Explain final decision, using additional sheets if necessary.

This information was obtained from a 1993 PA/VSI prepared by PRC Environmental Management, Inc.

One release of a hazardous constituent has been documented. During removal of a UST in 1988, toluene and water spilled into the excavation. Soil was excavated and one soil sample taken which contained no VOCs. The facility operated an unlined surface impoundment used to treat alkaline wastewater. The facility is currently in the process of submitting a closure plan for the surface impoundments.

Further investigation on the nature and extent of contamination is necessary before the need for stabilization can be evaluated.

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

1021 NORTH GRAND AVENUE EAST, P.O. BOX 19276, SPRINGFIELD, ILLINOIS 62794-9276 – (217) 782-3397
JAMES R. THOMPSON CENTER, 100 WEST RANDOLPH, SUITE 11-300, CHICAGO, IL 60601 – (312) 814-6026

ROD R. BLAGOJEVICH, GOVERNOR DOUGLAS P. SCOTT, DIRECTOR

217/524-3300

April 23, 2007

Certified Mail
7004 2510 0001 8616 6423

Lonza Inc.
Attn: Environmental Coordinator
8316 West Route 24
PO Box 105
Mapleton, Illinois 61547

Re: 1438050005 -- Peoria County
Performance Chemicals
ILD001643659
RCRA Permit

Dear Environmental Coordinator:

The Illinois EPA and the United States Environmental Protection Agency (U.S. EPA) have compiled a list of all facilities deemed appropriate and important to address using the Resource Conservation and Recovery Act's (RCRA) Corrective Action Program. Because this set of 3,880 facilities has national remediation goals which will culminate in the year 2020, it is referred to as the 2020 Corrective Action Universe. Your facility is part of this 2020 Universe.

As a result, a final remedy needs to be in place (i.e., remedy construction completed) at your facility by 2020 (although actual attainment of cleanup goals through remedy implementation may take a while longer). If we have not already done so, we will be working with you to develop a plan and a schedule that achieves this goal before 2020.

Your facility has been included in the 2020 Universe because one or more of the following is true:

- It has a RCRA permit obligation,
- Illinois EPA and U.S. EPA agreed that it needs to be addressed under the RCRA Corrective Action Program, as it at one time operated a hazardous waste management unit subject to the interim status or permit requirements of RCRA.

Inclusion on this list does not imply failure on your part to meet any legal obligation, nor should it be construed as an adverse action against you. It only means that Illinois EPA and U.S. EPA have identified your facility – and every other facility in the 2020 Universe – as needing to complete RCRA Corrective Action if they have not done so already. Our national program goal is to address these cleanup obligations before the end of 2020. Accordingly, progress will be

tracked for each facility in the 2020 Universe. The list of facilities will be posted on our web site at http://www.epa.gov/correctiveaction in the near future.

Illinois EPA will work to address remediation concerns at your facility in a manner consistent with your plans for the property. There are a variety of options available for completing the required remediation efforts at your facility, ranging from participation in Illinois EPA's Site Remediation Program to establishment of an Administrative Order on Consent with USEPA under Section 3008(h) of RCRA.

Illinois EPA would like to schedule a meeting with you in the near future to discuss remedial activities at your facility and achievement of the goal mentioned in the second paragraph of this letter. Please contact James K. Moore, P.E. of my staff at 217/524-3295 if you have any questions regarding this letter and to schedule a meeting to discuss the contents of this letter.

Sincerely,

Stephen F. Nightingale, P.E.
Manager, Permit Section
Bureau of Land

SFN:JKM:bjh\072572s.dot

cc: Hak Cho, USEPA, Region 5

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

REPLY TO THE ATTENTION OF:

HRE-8J

December 9, 1993

Mr. Robert Miller
Lonza, Inc.
U.S. Route 24
Mapleton, IL 61547

Re: Visual Site Inspection
Lonza, Inc.
Mapleton, IL
ILD 001 643 659

Dear Mr. Miller:

The U.S. Environmental Protection Agency is enclosing a copy of the final Preliminary Assessment/Visual Site Inspection (PA/VSI) report for the referenced facility. The executive summary and conclusions and recommendations sections have been withheld as Enforcement Confidential.

If you have any questions, please call Francene Harris at (312) 886-2884.

Sincerely yours,

Francene D. Harris

Kevin M. Pierard, Chief
Minnesota/Ohio Technical Enforcement Section
RCRA Enforcement Branch

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

REPLY TO THE ATTENTION OF:

HRE-8J

July 30, 1993

Mr. Robert Miller
Lonza, Inc.
Route 24, Box 105
Mapleton, Illinois 61547

Re: Visual Site Inspection
Lonza, Inc.
Mapleton, Illinois
ID No. ILD 001 643 659

Dear Mr. Miller:

The United States Environmental Protection Agency (U.S. EPA) Region V will conduct a Preliminary Assessment and a Visual Site Inspection (PA/VSI) at the referenced facility. This inspection is conducted pursuant to the Resource Conservation and Recovery Act, as amended (RCRA) Section 3007 and the Comprehensive Environmental Response, Compensation, and Liability Act, as amended (CERCLA) Section 104(e). The referenced facility has generated, treated, stored, or disposed of hazardous waste subject to RCRA. The PA/VSI requires identification and systematic review of all solid waste streams at the facility. The objective of the PA/VSI is to determine whether or not releases of hazardous wastes or hazardous constituents have occurred or are occurring at the facility which may require further investigation. This analysis will also provide information to establish priorities for addressing any confirmed releases.

The visual site inspection of your facility is to verify the location of all solid waste management units (SWMUs) and areas of concern (AOCs) and to make a cursory determination of their condition by visual observation. The definitions of SWMUs and AOCs are included in Attachment I. The VSI supplements and updates data gathered during a preliminary file review. During this site inspection, no samples will be taken. A sampling visit to ascertain if releases of hazardous waste or constituents have occurred may be required at a later date.

Assistance of some of your personnel may be required in reviewing solid waste flow(s) or previous disposal practices. The site inspection is to provide a technical understanding of the present and past waste flows and handling, treatment, storage, and disposal practices. Photographs of the facility are necessary to document the condition of the units at the facility and the waste management practices used.

The VSI has been scheduled for Tuesday, August 3, 1993 at 10:00 a.m. The inspection team will consist of Cathy Collins and John Maher of PRC Environmental Management, Inc., a contractor for the U.S. EPA. Representatives of the Illinois Environmental Protection Agency (IEPA) may also be present. Your cooperation in admitting and assisting them while on site is appreciated.

The U.S. EPA recommends that personnel who are familiar with present and past manufacturing and waste management activities be available during the VSI. Access to any relevant maps, diagrams, hydrogeologic reports, environmental assessment reports, sampling data sheets, environmental permits (air, NPDES), manifests and/or correspondence is also necessary, as such information is needed to complete the PA/VSI.

If you have any questions, please contact me at (312) 886-4448 or Francene Harris at (312) 886-2884. A copy of the Preliminary Assessment/Visual Site Inspection Report, excluding the conclusions and Executive Summary portion will be sent when the report is available.

Sincerely yours,

Kenneth S. Bardo

for Kevin M. Pierard, Chief
OH/MN Technical Enforcement Section

Enclosure

cc: Larry Eastep, IEPA, Springfield
John Trippses, IEPA, Peoria

PRC Environmental Management, Inc.
233 North Michigan Avenue
Suite 1621
Chicago, IL 60601
312-856-8700
Fax 312-938-0118

PRELIMINARY ASSESSMENT/ VISUAL SITE INSPECTION

LONZA, INC.
MAPLETON, ILLINOIS
ILD 001 643 659

FINAL REPORT

Prepared for

U.S. ENVIRONMENTAL PROTECTION AGENCY
Office of Waste Programs Enforcement
Washington, DC 20460

Work Assignment No.	:	R05032
EPA Region	:	5
Site No.	:	ILD 001 643 659
Date Prepared	:	November 23, 1993
Contract No.	:	68-W9-0006
PRC No.	:	309-R05032IL54
Prepared by	:	PRC Environmental Management, Inc. (John Maher)
Contractor Project Manager	:	Shin Ahn
Telephone No.	:	(312) 856-8700
EPA Work Assignment Manager	:	Kevin Pierard
Telephone No.	:	(312) 886-4448

CONTENTS

FIGURES

TABLES

EXECUTIVE SUMMARY

PRC Environmental Management, Inc. (PRC), performed a preliminary assessment and visual site inspection (PA/VSI) to identify and assess the existence and likelihood of releases from solid waste management units (SWMU) and other areas of concern (AOC) at the Lonza, Inc. (Lonza), facility in Mapleton, Peoria County, Illinois. This summary highlights the results of the PA/VSI and the potential for releases of hazardous wastes or hazardous constituents from SWMUs and AOCs identified.

The Lonza facility is a batch manufacturer of organic chemical intermediates and specialty chemicals. Raw materials, such as dextrose, glucose, alcohols, amines, phosphorous trichloride, and phosphorous acid, are mixed and reacted to formulate saleable products, such as sorbitol, polyols, amines, chlorides, quaternary ammonium chloride, and organic phosphonates. The facility's products are used in foods, pharmaceuticals, herbicides, cosmetics, disinfectants, shampoos, antistatic agents, surface active agents, and corrosion and scale inhibitors. The facility generates and manages the following waste streams: spent petroleum naphtha (D001); corrosive wastewater (D002); wastewater (nonhazardous); waste filter aid (nonhazardous); nickel filter cake (nonhazardous); salt brine (nonhazardous); used oil (nonhazardous); organic residue (nonhazardous); and spent deionization resin (nonhazardous).

The facility has operated at its current location since 1963. The facility occupies 102 acres in a combined industrial, commercial, and residential area and employs about 89 people. The facility's current regulatory status is that of a conditionally exempt, small-quantity generator of hazardous waste. However, because the facility treated corrosive wastewater (D002) in its Surface Impoundments (SWMU 1) in the past, the facility is also considered a treatment facility and must complete closure for its impoundments.

The Lonza facility was farmland before Baird Chemical Industries (Baird) purchased the property in 1963 and constructed the sorbitol production operation. In 1964, Baird constructed the amines production operation. In 1969, Lonza purchased Baird and, therefore, acquired the facility. Additional buildings were constructed between 1977 and 1978 for the crystalline sorbitol operation and the Airex brand polyvinylchloride (PVC) foam manufacturing operation. The Airex operation

was discontinued in 1982, and the building that housed that operation is currently used as a warehouse.

The Lonza facility is currently working to submit a closure plan for the facility's Surface Impoundments (SWMU 1) that the Illinois Environmental Protection Agency (IEPA) will approve. The facility plans to close the Surface Impoundments as soon as IEPA approves the closure plan.

The PA/VSI identified the following 10 SWMUs and 1 AOC at the facility:

Solid Waste Management Units

1. Surface Impoundments
2. Corrosive Wastewater Pretreatment System
3. Wastewater Pretreatment System
4. Container Storage Area
5. Waste Filter Aid Roll-off Boxes
6. Used Oil Accumulation Container
7. Nonhazardous Waste Satellite Accumulation Areas
8. Salt Brine Accumulation Tanks
9. Organic Residue Reduction System
10. Spent Resin Roll-off Box

Area of Concern

1. Former Toluene Underground Storage Tank (UST)

The potential for release to groundwater, surface water, air, and on-site soils from SWMUs 2, 3, 5, 7, 8, 9, and 10 is low because these units have adequate release controls.

The potential for release to groundwater, surface water, and on-site soils from SWMU 1 is moderate to high because this unit is constructed of soil and the groundwater at the facility is located near the ground surface. The potential for release to air from SWMU 1 is low because the wastewater managed at this SWMU is not a volatile organic compound (VOC) or a semi-volatile organic compound (SVOC).

The potential for release to groundwater and air from SWMU 4 is low because the waste managed at this SWMU is a nonhazardous, low-moisture sludge. The potential for release to surface water and

on-site soils is low to moderate because a spill of any free liquids from this SWMU will probably seek the surface depression that is located in the dirt and gravel area adjacent to this SWMU, and surface water runoff could be contaminated by such a spill.

The potential for release to groundwater and air from SWMU 6 is low because the SWMU contains only nonhazardous used oil and the container appears to remain closed when not in use, which limits the possibility of a spill occurring. The potential for release to surface water and on-site soils from this SWMU is low to moderate because there is evidence that minor spills do occur, and any spill to the dirt and gravel or concrete base could wash to on-site soils or to surface water that is adjacent to the facility.

The potential for release to groundwater, surface water, and air from AOC 1 is low because the UST no longer exists and some soil that was contaminated with a toluene and water mixture during the removal of the UST was excavated and disposed of. The potential for release to on-site soils is low to moderate because a toluene and water mixture spilled from the UST to on-site soils during the UST removal, and only one soil sample was collected to confirm that there was no soil contamination remaining.

The Lonza facility is bordered on the north by U.S. Route 24 (Illinois Route 9), on the west by a Caterpillar manufacturing facility, on the south by railroad tracks and further south by the Illinois River, and on the east by a Sherex Chemical Company chemical manufacturing plant. The nearest school, Mapleton School, is located about 0.25 mile northwest of the facility. The facility has an eight-foot-high, chain-link perimeter fence topped with barbed wire. Video monitors are used 24 hours per day, and guards are used during the daytime shifts. The shift supervisor provides security at night. The facility operates 24 hours per day and 7 days per week.

The nearest surface water body, Pond Lily Lake, is located on site. The Illinois River is located a few hundred feet south of the facility and is used for recreational, industrial, agricultural, and municipal water supply purposes. Other surface water bodies in the area include the Little Lamarsh Creek located about 0.6 mile west of the facility.

Wetlands are abundant in the area. The entire Lonza facility was originally wetlands and was altered for the current land use. The nearest drinking water well is the Village of Mapleton municipal well that is located about 0.5 mile north (upgradient) of Lonza. The Village of Mapleton has a population of about 165. The groundwater flow direction at the Lonza facility is south toward the Illinois River, and the depth to groundwater at the facility varies between 5 and 13 feet.

PRC recommends no further action for SWMUs 2, 3, 4, 5, 7, 8, 9, and 10. PRC recommends that Lonza continue with the closure plan approval process for SWMU 1. PRC recommends that the facility remove and dispose of stained dirt and gravel adjacent to SWMU 6. PRC recommends that samples be collected from soil adjacent to AOC 1 and the soils be analyzed for VOCs to determine if the release was adequately remediated.

1.0 INTRODUCTION

PRC Environmental Management, Inc. (PRC), received Work Assignment No. R05032 from the U.S. Environmental Protection Agency (EPA) under Contract No. 68-W9-0006 (TES 9) to conduct preliminary assessments (PA) and visual site inspections (VSI) of hazardous waste treatment and storage facilities in Region 5.

As part of the EPA Region 5 Environmental Priorities Initiative, the RCRA and CERCLA programs are working together to identify and address RCRA facilities that have a high priority for corrective action using applicable RCRA and CERCLA authorities. The PA/VSI is the first step in the process of prioritizing facilities for corrective action. Through the PA/VSI process, enough information is obtained to characterize a facility's actual or potential releases to the environment from solid waste management units (SWMU) and areas of concern (AOC).

A SWMU is defined as any discernible unit at a RCRA facility in which solid wastes have been placed and from which hazardous constituents might migrate, regardless of whether the unit was intended to manage solid or hazardous waste.

The SWMU definition includes the following:

- RCRA-regulated units, such as container storage areas, tanks, surface impoundments, waste piles, land treatment units, landfills, incinerators, and underground injection wells
- Closed and abandoned units
- Recycling units, wastewater treatment units, and other units that EPA has usually exempted from standards applicable to hazardous waste management units
- Areas contaminated by routine and systematic releases of wastes or hazardous constituents. Such areas might include a wood preservative drippage area, a loading or unloading area, or an area where solvent used to wash large parts has continually dripped onto soils.

An AOC is defined as any area where a release of hazardous waste or constituents to the environment has occurred or is suspected to have occurred on a nonroutine and nonsystematic basis. This includes any area where a strong possibility exists that such a release might occur in the future.

The purpose of the PA is as follows:

- Identify SWMUs and AOCs at the facility
- Obtain information on the operational history of the facility
- Obtain information on releases from any units at the facility
- Identify data gaps and other informational needs to be filled during the VSI

The PA generally includes review of all relevant documents and files located at state offices and at the EPA Region 5 office in Chicago.

The purpose of the VSI is as follows:

- Identify SWMUs and AOCs not discovered during the PA
- Identify releases not discovered during the PA
- Provide a specific description of the environmental setting
- Provide information on release pathways and the potential for releases to each medium
- Confirm information obtained during the PA regarding operations, SWMUs, AOCs, and releases

The VSI includes interviewing appropriate facility staff; inspecting the entire facility to identify all SWMUs and AOCs; photographing all visible SWMUs; identifying evidence of releases; making a preliminary selection of potential sampling parameters and locations, if needed; and obtaining additional information necessary to complete the PA/VSI report.

This report documents the results of a PA/VSI of the Lonza, Inc. (Lonza), facility (EPA Identification No. ILD 001 643 659) in Mapleton, Peoria County, Illinois. The PA was completed on August 2,

1993. PRC gathered and reviewed information from the Illinois Environmental Protection Agency (IEPA), the National Oceanic and Atmospheric Administration (NOAA), Peoria County Soil and Water Conservation District (PCSWCD), U.S. Department of Commerce (USDC), U.S. Geological Survey (USGS), and from EPA Region 5 RCRA files. The VSI was conducted on August 3, 1993. It included interviews with facility representatives and a walk-through inspection of the facility. PRC identified 10 SWMUs and 1 AOC at the facility.

The VSI is summarized and 20 of the 21 inspection photographs taken are included in Appendix A. The photographs have been renumbered; thus, their numbers differ from the photograph numbers in the VSI field notes, which are included in Appendix B.

2.0 FACILITY DESCRIPTION

This section describes the facility's location; past and present operations; waste generating processes and waste management practices; history of documented releases; regulatory history; environmental setting; and receptors.

2.1 FACILITY LOCATION

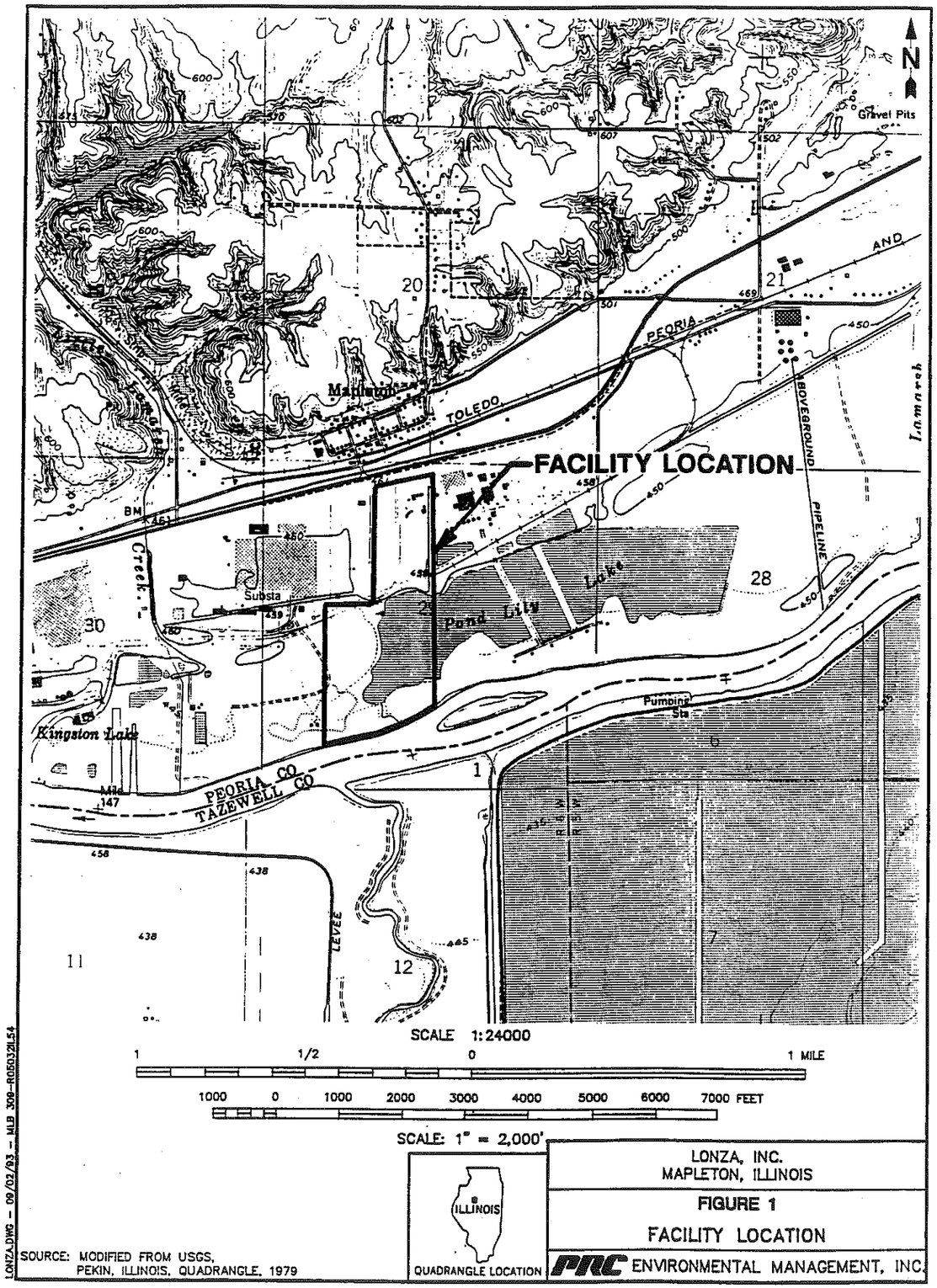
The Lonza facility is located on U.S. Route 24 in Mapleton, Peoria County, Illinois. Figure 1 shows the location of the facility in relation to the surrounding topographic features (latitude 40°33'30" N and longitude 89°44'00" W). The facility occupies 102 acres in a combined industrial, commercial, and residential area.

The Lonza facility is bordered on the north by U.S. Route 24 (Illinois Route 9), on the west by a Caterpillar manufacturing facility, on the south by railroad tracks and further south by the Illinois River, and on the east by a Sherex Chemical Company chemical manufacturing plant.

2.2 FACILITY OPERATIONS

The Lonza facility is a batch manufacturer of organic chemical intermediates and specialty chemicals. Raw materials, such as dextrose, glucose, alcohols, amines, phosphorous trichloride, and phosphorous acid, are mixed and reacted to formulate saleable products, such as sorbitol, polyols, amines, chlorides, quaternary ammonium chloride, and organic phosphonates. The facility's products are used in foods, pharmaceuticals, herbicides, cosmetics, disinfectants, shampoos, antistatic agents, surface active agents, and corrosion and scale inhibitors.

This facility was farmland before Baird Chemical Industries (Baird) purchased the property in 1963 and constructed the sorbitol production operation. In 1964, Baird constructed the amines production operation. In 1969, Lonza purchased Baird and, therefore, acquired the facility. Additional buildings were constructed between 1977 and 1978 for the crystalline sorbitol operation and the Airex brand polyvinylchloride (PVC) foam manufacturing operation. The Airex operation was discontinued in 1982, and the building that housed that operation is currently used as a warehouse. Facility


N
Gravel Pits
AND
PEORIA
TOLEDO
Manito
FACILITY LOCATION
BOYERGROUND
PIPELINE
Lamarsh
Creek
Substa
Lake
Pond Lily
Pumping Sta
Kingston Lake
PEORIA CO
TAZEWELL CO
LEVEE
20
21
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29
1
11
12
7
SCALE 1:24000
1 1/2 0 1 MILE
1000 0 1000 2000 3000 4000 5000 6000 7000 FEET
SCALE: 1" = 2,000'
ILLINOIS
QUADRANGLE LOCATION
SOURCE: MODIFIED FROM USGS,
PEKIN, ILLINOIS, QUADRANGLE, 1979
LONZA, INC.
MAPLETON, ILLINOIS
FIGURE 1
FACILITY LOCATION
PRC ENVIRONMENTAL MANAGEMENT, INC.
LONZA.DWG - 09/02/93 - MLB 309-R050329154

operations have not changed significantly since the elimination of the Airex operation. The facility currently employs 89 people.

The Lonza facility consists of the following: an office and sorbitol production building; an amines production building; a crystalline sorbitol building; a warehouse building; a multipurpose utility building (MPUB), which houses the quality control laboratory; a maintenance building; several tank farms; two Surface Impoundments (SWMU 1); and a parking lot.

2.3 WASTE GENERATION AND MANAGEMENT

This section describes waste generation and management at the Lonza facility. The facility's SWMUs are identified in Table 1. The facility layout, including SWMUs and AOCs, is shown in Figures 2 and 3. The facility's waste streams are summarized in Table 2.

The Lonza facility currently operates as a conditionally exempt, small-quantity generator (CESQG) of hazardous waste. Two hazardous wastes, spent petroleum naphtha (D001) and corrosive wastewater (D002), are generated from the maintenance of the manufacturing operations and facility buildings and equipment. The following five nonhazardous wastes are generated from the maintenance of facility buildings and equipment, pretreatment of corrosive wastewater, and filtering product: wastewater, waste filter aid, nickel filter cake, salt brine, used oil, organic residue, and spent deionization resin.

Spent petroleum naphtha (D001) is generated from washing parts in the facility maintenance department parts washer. The facility generates about 27 gallons of this waste every 6 weeks. This waste is not accumulated on site. Once every 6 weeks Safety-Kleen Corporation (Safety-Kleen) in Pekin, Illinois, replaces the petroleum naphtha in the parts washer with fresh petroleum naphtha. Safety-Kleen stores the spent petroleum naphtha at its Pekin facility. Eventually the waste is sent to a Safety-Kleen facility where the waste is reclaimed.

Corrosive wastewater (D002) is periodically generated when the facility regenerates its ion exchange resins using acidic and caustic washes. After acidic corrosive wastewater is filtered to remove nickel, the acidic and alkaline corrosive wastewaters are mixed together on site in the Corrosive Wastewater

TABLE 1

SOLID WASTE MANAGEMENT UNITS

SWMU Number	SWMU Name	RCRA Hazardous Waste Management Unit[a]	Status
1	Surface Impoundments	Yes	Active; RCRA closure plan submitted to IEPA; RCRA closure not completed
2	Corrosive Wastewater Pretreatment System	No	Active; manages hazardous waste for less than 90 days
3	Wastewater Pretreatment System	No	Active; manages nonhazardous waste for less than 90 days
4	Container Storage Area	No	Active; manages nonhazardous waste for less than 90 days
5	Waste Filter Aid Roll-off Boxes	No	Active; manages nonhazardous waste for less than 90 days
6	Used Oil Accumulation Container	No	Active; manages nonhazardous waste for less than 90 days
7	Nonhazardous Waste Satellite Accumulation Areas (SAA)	No	Active; manages nonhazardous waste for less than 90 days
8	Salt Brine Accumulation Tanks	No	Active; manages nonhazardous waste for less than 90 days
9	Organic Residue Reduction System	No	Active; manages nonhazardous waste for less than 90 days
10	Spent Resin Roll-off Box	No	Active; manages nonhazardous waste for less than 90 days

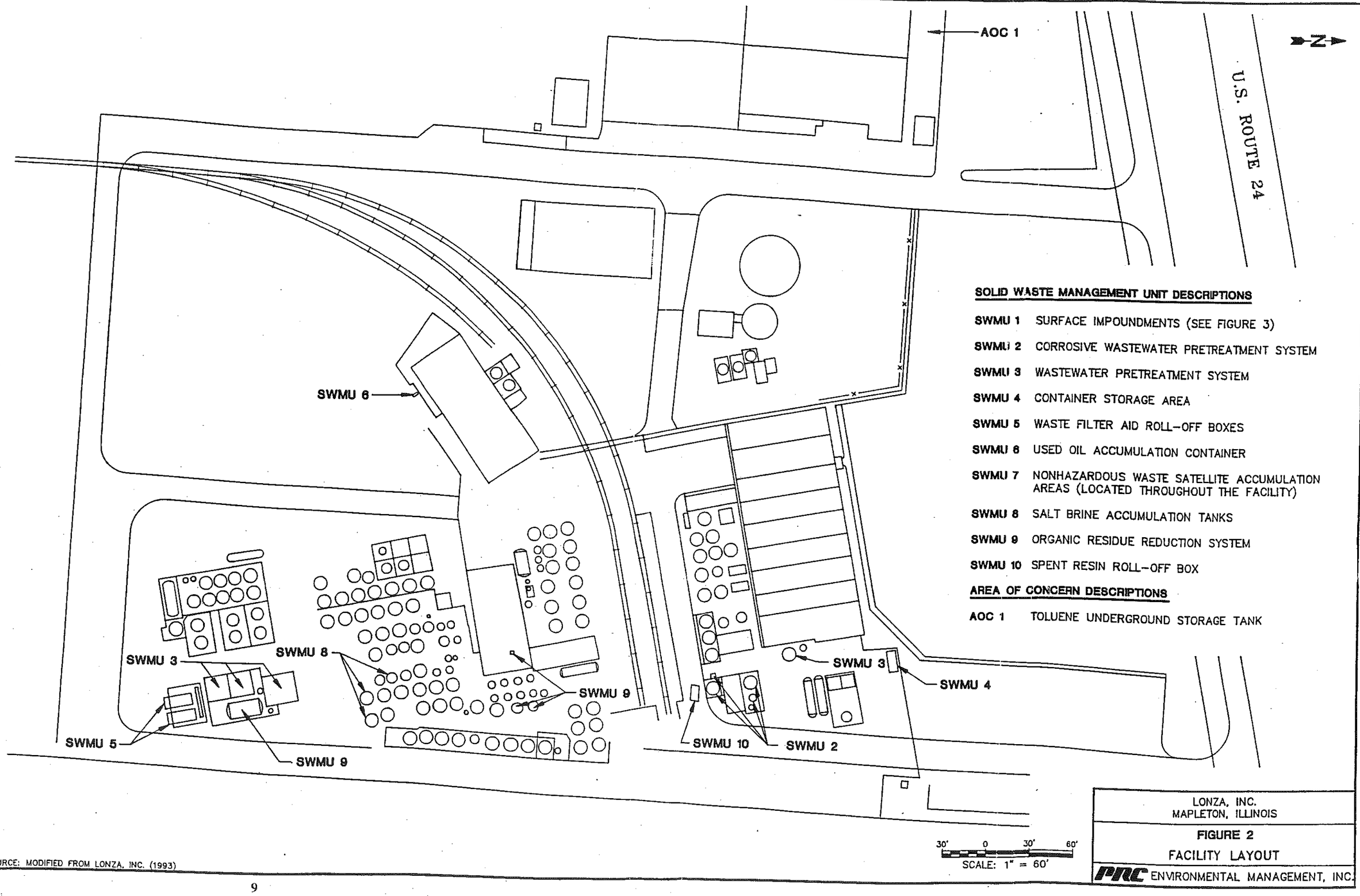
TABLE 1

SOLID WASTE MANAGEMENT UNITS

(Continued)

Note:

[a] A RCRA hazardous waste management unit is one that currently requires or formerly required submittal of a RCRA Part A or Part B permit application.



SOLID WASTE MANAGEMENT UNIT DESCRIPTIONS

SWMU 1 SURFACE IMPOUNDMENTS (SEE FIGURE 3)

SWMU 2 CORROSIVE WASTEWATER PRETREATMENT SYSTEM

SWMU 3 WASTEWATER PRETREATMENT SYSTEM

SWMU 4 CONTAINER STORAGE AREA

SWMU 5 WASTE FILTER AID ROLL-OFF BOXES

SWMU 6 USED OIL ACCUMULATION CONTAINER

SWMU 7 NONHAZARDOUS WASTE SATELLITE ACCUMULATION AREAS (LOCATED THROUGHOUT THE FACILITY)

SWMU 8 SALT BRINE ACCUMULATION TANKS

SWMU 9 ORGANIC RESIDUE REDUCTION SYSTEM

SWMU 10 SPENT RESIN ROLL-OFF BOX

AREA OF CONCERN DESCRIPTIONS

AOC 1 TOLUENE UNDERGROUND STORAGE TANK

SOURCE: MODIFIED FROM LONZA, INC. (1993)

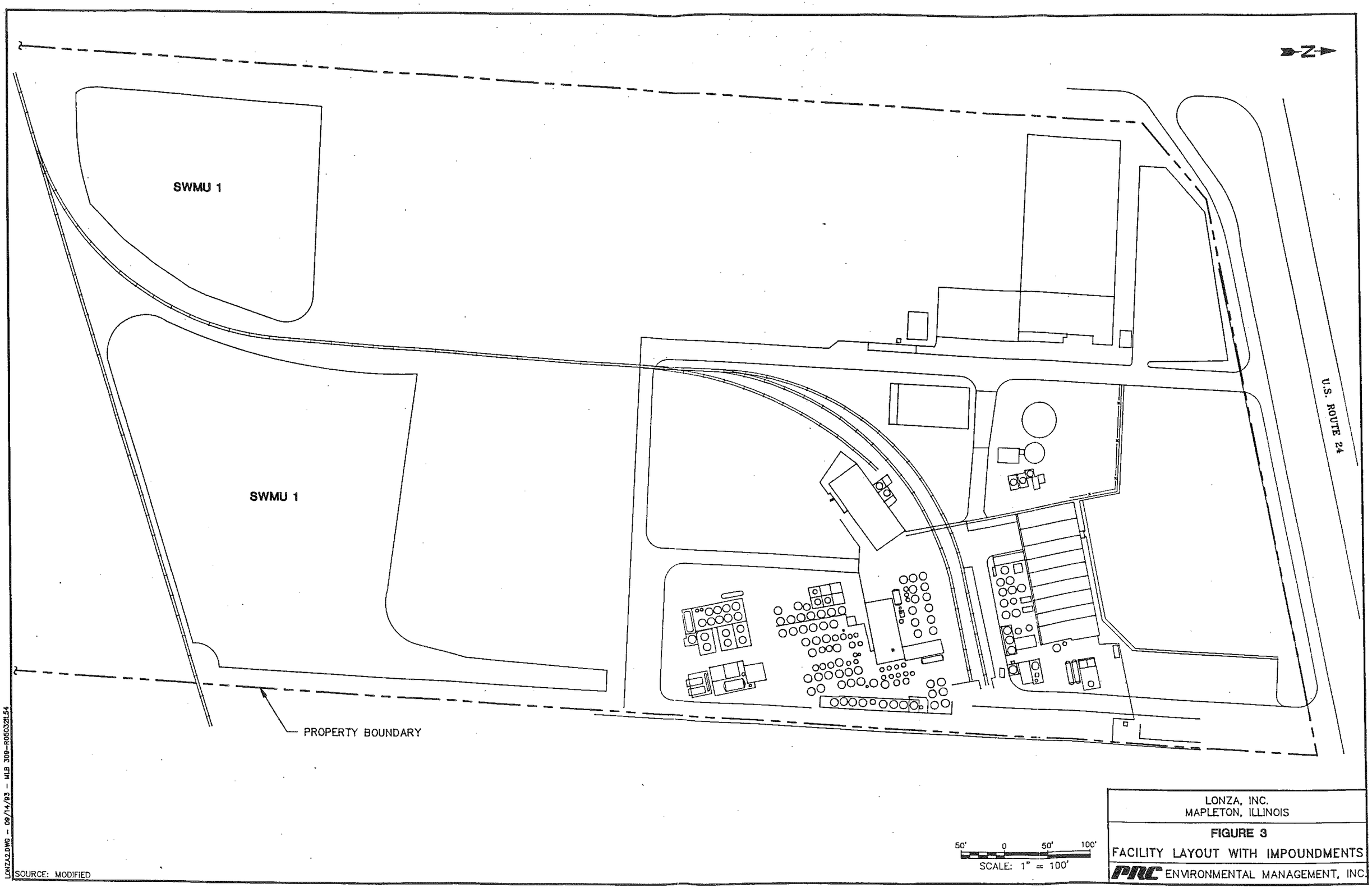
LONZA, INC.
MAPLETON, ILLINOIS

FIGURE 2
FACILITY LAYOUT

PRC ENVIRONMENTAL MANAGEMENT, INC.

/08/93 - MLB 308-R05032L54

LONZA1.DWG



LONZA2.DWG - 09/14/93 - MLB 309-R05032ZL54

SOURCE: MODIFIED

LONZA, INC.
MAPLETON, ILLINOIS

FIGURE 3

FACILITY LAYOUT WITH IMPOUNDMENTS

PRC ENVIRONMENTAL MANAGEMENT, INC.

TABLE 2

SOLID WASTES

Waste/EPA Waste Code[a]	Source	Solid Waste Management Unit[b]
Spent petroleum naphtha/D001	Parts washing	None
Corrosive wastewater/D002	Regenerating deionization resins	2
Wastewater/NA	Scrubber discharge, vacuum condensate, contaminated rainwater runoff in the tank farms, rinse water from cleaning outdoor tank farm pads, and neutralized corrosive wastewater	1 and 3[c]
Waste filter aid/NA	Raw material filtering	5
Nickel filter cake/NA	Product and corrosive (acidic) wastewater filtering	4 and 7
Salt brine/NA	Amines plant production operations	8
Used oil/NA	Equipment maintenance	6
Organic residue/NA	Skimming wastewater	9
Spent deionization resin/NA	Replacing deionization resins	10

TABLE 2

SOLID WASTES

(Continued)

Notes:

a Not applicable (NA) designates nonhazardous waste.

b "None" indicates that the waste stream is not managed on site.

c Neutralized corrosive wastewater, which includes treated floor wash water, is discharged directly from the Corrosive Wastewater Pretreatment System (SWMU 2) to the Surface Impoundments (SWMU 1); it is not discharged to the Wastewater Pretreatment System (SWMU 3) with the nonhazardous wastewaters from the other sources.

Pretreatment System (SWMU 2) for neutralization. The neutralized wastewater is discharged to the Surface Impoundments (SWMU 1) for settling.

Nonhazardous wastewater is generated from the following sources: scrubber discharge, vacuum condensate, wash water from cleaning the floors in the sorbitol building, rinse water from cleaning outdoor concrete tank farm pads, neutralized corrosive wastewater, and contaminated rainwater runoff in the tank farms. This water is conveyed through pipes and concrete trenches to the primary basin of the Wastewater Pretreatment System (SWMU 3), where the pH is adjusted, quaternary ammonium chlorides are neutralized, and organic debris is skimmed from the wastewater surface. The pretreated wastewater is discharged to the Surface Impoundments (SWMU 1). After the wastewater flows through the Surface Impoundments, it is conveyed by pipe to an on-site pumping station. Between 50,000 and 75,000 gallons of wastewater is transported daily to a manhole station of the Greater Peoria Sanitary and Sewage Disposal District (GPSSDD) (GPSSDD 1990).

Nonhazardous waste filter aid is generated in the amines plant from purifying raw materials with filters that use a diatomacious earth media. Waste filter aid is generated at a rate of about 17,000 pounds per month. When the filters are cleaned, this waste is placed in hoppers (Nonhazardous Waste SAAs [SWMU 7]) and then transferred to the Waste Filter Aid Roll-off Boxes (SWMU 5) using a forklift. This waste is landfilled at the Tazwell County Landfill in Tazwell County, Illinois.

Nonhazardous nickel filter cake is generated from filtering product during sorbitol production and filtering corrosive (acidic) wastewater (D002) before it is neutralized in the Corrosive Wastewater Pretreatment System (SWMU 2). Plate and frame filter presses are used to remove nickel from the product and the wastewater, and metal pans with wheels (Nonhazardous Waste SAAs [SWMU 7]) are located under the presses to collect the nickel filter cake. The nickel filter cake is transferred from the metal pans to 55-gallon drums, which are placed in the Container Storage Area (SWMU 4). This waste is generated at a rate of about 20,000 pounds per year and is sold to Parkan International in Houston, Texas, for reclamation of the nickel.

Nonhazardous salt brine is generated as a byproduct of the amination process in the amines plant. This waste is initially accumulated in tanks T-241 and T-608 and pH adjusted in tank T-371 (Salt Brine Accumulation Tanks [SWMU 8]). This waste is generated at a rate of about 5,500 gallons per

month and is sent to Interstate Pollution Control (IPC) in Rockford, Illinois. IPC treats this waste to remove organic material before discharging the waste to the Rockford sanitary system.

Nonhazardous used oil is generated when the maintenance department changes the oil in the facility emergency response van, forklifts, and other equipment. It is generated at a rate of about 50 gallons per month and is accumulated in the Used Oil Accumulation Container (SWMU 6). It is sent to Safety-Kleen in Pekin, Illinois, for recycling.

Nonhazardous organic residue is generated from skimming organic residue from the surface of wastewater in the primary basin of the Wastewater Pretreatment System (SWMU 3) and then removing some of the water in the organic residue using an evaporator. Skimmed organic residue is piped to tank T-700, which is the first unit in the Organic Residue Reduction System (SWMU 9). The waste is then piped to tank T-247, which feeds an evaporator located in the amines building. Evaporated organic residue is piped to tank T-248 (the last unit in the Organic Residue Reduction System [SWMU 9]), where it remains until it is shipped off site for disposal. This waste is generated at a rate of about 1,000 gallons per day. The waste is typically sent to Magnum International in Calumet City, Illinois, for fuel blending but recently has been sent to Missouri Fuel Recycler, Inc. (MFR), also in Hannibal, Missouri. MFR is located on the same property as Continental Cement, which incinerates this organic residue in its kiln.

Nonhazardous spent deionization resin is generated when the facility replaces its deionization resins. The resin is replaced about once a year, and about 300 cubic feet of spent deionization resin is generated each time the resin is replaced. At the time of the VSI, about 300 cubic feet of spent deionization resin had been accumulated in the Spent Resin Roll-off Box (SWMU 10). In the past, the spent deionization resin has been sold; however, the Lonza facility intends to dispose of the spent deionization resin at the Tazwell County Landfill.

2.4 HISTORY OF DOCUMENTED RELEASES

This section discusses the history of documented releases to groundwater, surface water, air, and on-site soils at the facility.

One release of a hazardous constituent at the Lonza facility has been documented. On December 19, 1988, the facility's raw material Former Toluene Underground Storage Tank (UST) (AOC 1) was excavated and removed. During the removal activities a pipe was severed and about 17 gallons of a toluene and water mixture spilled into the excavation. About 6 cubic yards of contaminated soil (8.2 parts per million [ppm] toluene) was removed and sent for disposal, and then a soil sample was collected from the excavation. The soil sample contained no volatile organic compounds (VOC), so the excavation was backfilled. No additional remediation of this area was conducted.

2.5 REGULATORY HISTORY

The Lonza facility submitted a Notification of Hazardous Waste Activity form to EPA on August 12, 1980 (Lonza 1980a). The following waste codes were identified on the notification: U154, U069, U220, U122, U107, U092, U162, D001, D002, D003, and D000 (toxic).

On November 10, 1980, the facility submitted a RCRA Part A permit application for storage (S02) and treatment (T01) of hazardous waste (specifically, waste codes D001, D002, D005, D007, D008, and D009) in tanks. The application also indicates storage of hazardous waste in containers (S01), but no waste codes are included for this process (Lonza 1980b). On May 28, 1982, EPA requested that Lonza submit a Part B permit application to EPA by November 30, 1982 (EPA 1982a). On November 19, 1982, Lonza requested that EPA extend the due date for the submittal of the Part B permit application to the end of January 1983 (Lonza 1982). EPA granted Lonza's request (EPA 1982b). However, on August 31, 1983, Lonza decided not to submit a Part B permit application and requested that EPA withdraw Lonza's Part A permit application (Lonza 1983). On October 26, 1983, EPA withdrew the Part A permit application (EPA 1983). The Lonza facility appeared to be a protective filer.

Currently, the facility operates as a CESQG of hazardous waste and does not accumulate hazardous waste on site. However, in 1990, IEPA determined that the facility treated corrosive wastewater in the facility's Surface Impoundments (SWMU 1). Therefore, the impoundments (SWMU 1) are considered hazardous waste management units, and therefore, the facility is required to have a Part A permit application to operate the impoundments (SWMU 1). Because the facility did not have an

active Part A permit application that included the impoundments (SWMU 1), IEPA requested that the facility submit a plan and schedule to return the facility to compliance (Lonza 1990).

In November 1990, the facility submitted a Final RCRA Closure Plan for the closure of the impoundments (SWMU 1) (ENSR 1990a). In December 1990, the facility submitted a Groundwater Monitoring Waiver Demonstration for the impoundments (SWMU 1) to waive the RCRA requirement that groundwater monitoring be provided for all closed hazardous waste land disposal facilities (ENSR 1990b). IEPA disapproved the closure plan (IEPA 1991a). IEPA and Lonza held a meeting on March 8, 1991, regarding IEPA's letter, which disapproved the facility's closure plan. Lonza agreed to send IEPA a letter outlining actions Lonza would take to address the disapproved areas of the Closure Plan (IEPA 1991b). On September 24, 1991, Lonza submitted its proposal to resolve all compliance issues associated with its impoundments (SWMU 1). No response from IEPA is documented in the files reviewed during the PA.

Since 1980, IEPA has conducted three compliance evaluation inspections (CEI) at the Lonza facility. No violations were observed during the first CEI, which was conducted on June 19, 1984 (IEPA 1984). During the second CEI, which was conducted on January 23, 1991, IEPA observed 29 violations of RCRA regulations at the facility. Of the 29 violations, 16 violations were related to inadequate, incomplete, or the lack of paperwork required under RCRA regulations. The 13 other violations were related to the following: deficiencies in facility inspections, personnel training, emergency procedures and arrangements with local authorities, the hazardous waste tank assessment and its secondary containment, and surface impoundment compliance (IEPA 1991c). IEPA requested that Lonza submit a proposal to resolve the violations observed during the January 23, 1991, CEI (IEPA 1991d). Lonza submitted its proposal to IEPA on September 24, 1991.

IEPA conducted the third CEI on October 15, 1991, and observed 17 violations of RCRA regulations; all of the observed violations were unresolved violations from the January 23, 1991, CEI. The 12 violations that were observed during the second CEI and were resolved for the third CEI, were all related to paperwork requirements, with the exception of one violation that was related to the requirement that the facility conduct on-site inspections of its operations (IEPA 1991e).

On October 15, 1991, IEPA also conducted a compliance monitoring evaluation (CME) of the facility's compliance with RCRA groundwater monitoring regulations for surface impoundments. Five violations related to monitoring groundwater near the surface impoundments were observed (IEPA 1991f). IEPA notified the facility of the violations observed during the these inspections, and the facility responded to IEPA's notification; however, IEPA referred the facility's noncompliance with RCRA regulations to the Attorney General's office (AGO) and requested that the AGO represent IEPA in an enforcement action against the facility (IEPA 1991g; Lonza 1991; IEPA 1992a). IEPA notified the facility that IEPA requested the AGO prepare a formal enforcement complaint, but no records reviewed during the PA and the VSI indicate that IEPA or the AGO has taken any additional action regarding the violations that were observed at the Lonza facility (IEPA 1992b). The surface impoundments have not undergone RCRA closure.

No records in the files reviewed during the PA indicate that the Lonza facility has violated its air permits or air emission regulations.

On July 28, 1985, the Lonza facility received a National Pollutant Discharge Elimination System (NPDES) permit for the discharge of uncontaminated storm water, steam condensate, and noncontact cooling tower blowdown to Pond Lily Lake, which discharges to the Illinois River. The facility collects a sample and measures flow rate of the water discharge daily, analyzes the water for pH, temperature, biological oxygen demand, total suspended solids, total dissolved solids, and ammonium, and submits a monthly discharge monitoring report to IEPA (PRC 1993b). The NPDES permit expired on June 1, 1990, and a new NPDES permit was issued on December 19, 1991, and will expire on September 1, 1996. Although it appears that the facility operated without a NPDES permit between June 1990 and December 1991, the facility submitted to IEPA a timely renewal application of the old permit, and the facility was allowed to continue operating under the old permit until the new permit was issued (PRC 1993a).

On November 5, 1990, the Lonza facility received a Wastewater Discharge Permit from the GPSSDD for the discharge of pretreated wastewater to the GPSSDD sewer system. In accordance with this permit, the facility treats its wastewater to adjust the pH, reduce the concentration of quaternary ammonium chloride, and eliminate any visible evidence of floating organic residue. The wastewater is treated a second time when it is pumped into tanker trucks that transport it to a manhole station,

which has been designated by the GPSSDD, and discharged to the GPSSDD (GPSSDD 1990). As the wastewater is pumped into the tanker trucks, the facility adds the following chemicals to the wastewater: (1) sulfuric acid to lower the pH, which has been maintained at pH 10 in the impoundments to retard bacterial growth; (2) an anionic surfactant to neutralize remnant quaternary ammonium chlorides; and (3) bleach to reduce odors.

The Lonza facility had one underground storage tank (UST) (Former Toluene UST [AOC 1]) that was installed in 1977, removed from service in December 1982, and removed from the facility on December 19, 1988. The UST had a capacity of 10,000 gallons and contained virgin toluene, which was used in the Airex operation (PRC 1993a). The Airex operation was phased out in 1982.

2.6 ENVIRONMENTAL SETTING

This section describes the climate; flood plain and surface water; geology and soils; and groundwater in the vicinity of the facility.

2.6.1 Climate

The climate in Peoria County is continental, with wide variations in temperature between summer and winter. The average daily temperature is 50.4 °F. The lowest average daily temperature is 13.3 °F in January. The highest average daily temperature is 85.5 °F in July (NOAA 1990).

The average annual precipitation for Peoria is 34.89 inches (NOAA 1990). The mean annual lake evaporation for the area is about 32 inches (USDC 1968). The 1-year, 24-hour maximum rainfall is 5.06 inches (NOAA 1990). Average annual snowfall is 24.7 inches. Precipitation is somewhat evenly distributed throughout the year, with slightly more falling in spring and summer (NOAA 1990).

The prevailing wind is from the south, except during the winter months, when winds from the west-northwest may be more frequent. Average annual wind speed is 10.0 miles per hour (mph). Average wind speed is highest in March at 12.1 mph. The average relative humidity is about 71 percent. Humidity is higher at night, and the average at dawn is about 83 percent (NOAA 1990).

2.6.2 Flood Plain and Surface Water

The Lonza facility is located within a 100-year flood plain. There are three major surface water bodies in the area. Part of Pond Lily Lake is located on site and discharges to the Illinois River, which is located a few hundred feet south of the facility. The Little Lamarsh Creek runs north and south through the center of the adjacent property to the west of the Lonza facility and also drains into the Illinois River. The Illinois River is used for recreational, agricultural, industrial, and municipal water supply purposes. This surface water body discharges to the Mississippi River. Wetlands are abundant in the area. The entire facility was originally wetlands before it was altered for farmland and then for its current land use.

2.6.3 Geology and Soils

The facility is underlain by the Orthents-Urban Land unit, according to the Peoria County Soil and Water Conservation District (PCSWCD). This unit is defined as disturbed and developed lands, consisting mainly of fill, and often where underlying or original soils can no longer be distinguished. The soil in the vicinity of the plant is sandy loam to a depth of 13 feet. Below this is a layer of compacted blue clay from 2 to 8 feet thick. To the east of the facility are original deposits classified as Dickinson soils. The topsoil is characterized by very dark brown, very dark gray and dark brown friable fine sandy loam. The subsoil is characterized by very dark grayish-brown, dark brown, and yellowish-brown friable fine sandy loam in the upper part and yellowish-brown loamy sand in the lower part. The underlying material is principally brown sand to a depth of 60 inches (PCSWCD 1992).

No site-specific geologic information was available, but in the vicinity of the Lonza facility, the surficial geology consists of Quaternary till. This is primarily sandy and slightly clayey, silty till divided into two beds, often with intercalated lenses of sand and gravel. The entire land surface of Peoria County consists of unconsolidated glacial deposits, or drift, of Pleistocene (Wisconsinan) age, as well as alluvium derived from subsequent erosion of glacial materials by water (Bergstrom 1956).

The uppermost bedrock beneath the glacial drift at the facility is Silurian in age. The rocks consist of limestones and dolomites with interbedded calcareous siltstones, and the total thickness may be greater

than 250 feet. Beneath the Silurian rocks are dark gray to pale greenish-gray Ordovician shales (Bergstrom 1956).

2.6.4 Groundwater

In the vicinity of the facility, water may be supplied from Pleistocene sand and gravel deposits or from upper bedrock limestone of the Keokuk and Burlington Formations, which are Mississippian in age. Close proximity to the Illinois River produces sand and gravel aquifers which are highly permeable and an excellent source of water. Along the Illinois River in the Peoria region, the Sankoty sand and younger glacial outwash deposits are among the most prolific aquifers in the State (Bergstrom 1956). The Sankoty sand, which forms a thick fill in and along the Illinois River valley, is the principal aquifer for municipal and industrial supplies. The thickness of this sand varies from 50 feet to 150 feet along the Illinois River, and may reach a maximum of up to 300 feet along the uplands to the west. The depth to groundwater at the facility varies between 5 and 13 feet below ground surface (PRC 1993b). Groundwater flow at the facility is to the south (Bergstrom 1956; PRC 1993b). The nearest drinking water well is the Village of Mapleton municipal well that is located about 0.5 mile north (upgradient) from the facility.

2.7 RECEPTORS

The facility occupies 102 acres in a mixed use area in Mapleton, Illinois. Mapleton has a population of about 165 (USDC 1990).

The Lonza facility is bordered on the north by U.S. Route 24 (Illinois Route 9), on the west by a Caterpillar manufacturing facility, on the south by railroad tracks and further south by the Illinois River, and on the east by a Sherex Chemical Company chemical manufacturing plant. The nearest school, Mapleton School, is located about 0.25 mile northwest of the facility. The facility has an eight-foot-high, chain-link perimeter fence topped with barbed wire. Video monitors are used 24 hours per day, and guards are used during the daytime shifts. The shift supervisor provides security at night. The facility operates 24 hours per day and 7 days per week.

The nearest surface water body, Pond Lily Lake, is located on site. The Illinois River is located a few hundred feet south of the facility and is used for recreational, industrial, agricultural, and municipal water supply purposes. Other surface water bodies in the area include the Little Lamarsh Creek located about 0.6 mile west of the facility (USGS 1979).

Wetlands are abundant in the area. The entire Lonza facility was originally wetlands and was altered for the current land use (PRC 1992). The nearest drinking water well is the Village of Mapleton municipal well that is located about 0.5 mile north (upgradient) of Lonza.

3.0 SOLID WASTE MANAGEMENT UNITS

This section describes the 10 SWMUs identified during the PA/VSI. The following information is presented for each SWMU: description of the unit, dates of operation, wastes managed, release controls, history of documented releases, and PRC's observations. Figure 2 shows the SWMU locations.

SWMU 1 **Surface Impoundments**

Unit Description:

This SWMU consists of two surface impoundments (primary and secondary). Historically, the primary surface impoundment (PSI) received acidic and alkaline corrosive wastewaters (D002), which were neutralized within the PSI when the two streams commingled. The neutralized wastewater then flowed by gravity to the secondary surface impoundment (SSI) before being discharged to the Illinois River. Currently, the surface impoundments receive only nonhazardous wastewater to settle out solids.

The PSI is irregularly shaped and is constructed of soil (see Figure 1). It is about 4.2 acres in size. The depth of the wastewater in the PSI ranges from 2.75 feet at the north end to 5.4 feet at the southwest end. In 1990, the bottom of the PSI contained between 4 and 12 inches of sludge (ENSR 1990b).

The SSI is also irregularly shaped, although it is not similar in shape to the PSI (see Figure 1). The SSI is about 2 acres in size. The depth of the wastewater in the SSI ranges from 5.5 feet in the northeast quarter to over 9 feet on the south side. In 1990, the bottom of the SSI contained about 4 inches of sludge (ENSR 1990b).

Date of Startup:

This SWMU began operating in the early 1970s (ENSR 1990b).

Date of Closure:	This SWMU is active; however, in November 1990 the facility submitted a RCRA closure plan to IEPA.
Wastes Managed:	Currently, nonhazardous wastewater, including filtered and neutralized wastewater from the Corrosive Wastewater Pretreatment System (SWMU 2), is managed in these units. In the past, the PSI received acidic and alkaline corrosive wastewaters (D002), which were neutralized as they commingled in the impoundment.
Release Controls:	This SWMU is constructed of soil and has no release controls, although the PSI appeared to have more than 2 feet of freeboard, which is required of hazardous waste surface impoundments. Two feet of freeboard is not maintained in the SSI.
History of Documented Releases:	No releases from this unit have been documented.
Observations:	PRC observed that both the PSI and the SSI were nearly full of water. PRC observed a white-and-brown slick on the surface of the water in the PSI. The freeboard level in the PSI appeared to be more than 2 feet (see Photograph No. 1). The water in the SSI appeared clear. The freeboard level in the SSI appeared to be less than 2 feet (see Photograph No. 2).
SWMU 2	**Corrosive Wastewater Pretreatment System**
Unit Description:	This SWMU consists of a 11400-gallon, fiberglass aboveground tank (T-168) for storing acidic wastewater, a 4500-gallon, fiberglass aboveground tank (T-169) for flocculating nickel in the acidic wastewater, a plate and frame filter press for removing flocculated nickel from the acidic wastewater, a 15000-gallon, fiberglass aboveground tank (T-172) for storing caustic wastewater, a concrete

trench where the acidic and caustic wastewaters are mixed together, and a fiberglass reinforced plastic (FRP) lined concrete sump, which controls the flow of the neutralized wastewater to the Surface Impoundments (SWMU 1). This SWMU also includes a 25000-gallon, carbon steel aboveground storage tank (T-166), which is used to accumulate wastewater that is generated during the sorbitol manufacturing operation.

Date of Startup: According to facility representatives, this SWMU started operating on August 5, 1991 (IEPA 1991e); however, the startup date of tank T-166 is 1985.

Date of Closure: This SWMU is currently active.

Wastes Managed: This SWMU manages acidic and caustic wastewater that is generated when the facility regenerates its deionization resin beds.

Release Controls: The acidic wastewater storage tank and the mixing tank are located on a concrete pad that has a 6-inch-high concrete dike, and the filter press is located indoors on a concrete floor. The caustic wastewater storage tank is located on a concrete pad that does not have a dike; however, the concrete trenches that discharge to the Wastewater Pretreatment System (SWMU 3) are downgradient from the tank and will likely receive any wastewater discharged from the tank.

History of Documented Releases: No releases from this SWMU have been documented.

Observations: PRC observed that the concrete pads, floor, and dikes, the tanks, the filter press, and the sump do not show any signs of wear, although some staining was observed on the concrete floors (see Photographs No. 3, 4, 5, and 6).

SWMU 3	**Wastewater Pretreatment System**
Unit Description:	This SWMU consists of three concrete, inground, open-top, basins: a 75000-gallon primary basin, a 29400-gallon secondary basin, and a 24300-gallon tertiary basin. These basins are used to pretreat wastewater. Wastewater is initially conveyed to the primary basin through concrete floor trenches located throughout the processing areas. In the primary basin the pH of the wastewater is adjusted, quaternary ammonium chloride in the wastewater is neutralized, and the organic residue is removed from the surface of the wastewater by using a skimmer. The secondary and tertiary basins are used to extend the holding time of the wastewater so that more organic residue can be removed.
Date of Startup:	The startup date of this SWMU is 1970.
Date of Closure:	This SWMU is currently active.
Wastes Managed:	This SWMU manages wastewater that is generated from the following sources: (1) rainwater runoff from processing areas, (2) wastewater discharged from the facility scrubber, (3) vacuum condensate, and (4) wastewater generated from cleaning the outdoor concrete pads in the tank farms.
Release Controls:	This SWMU is constructed of 8-inch-thick, steel reinforced concrete. Although this SWMU does not have secondary containment, an overflow of wastewater could be avoided by discharging excess wastewater from this SWMU to the Surface Impoundments (SWMU 1).

History of Documented Releases:	No releases from this SWMU have been documented.
Observations:	PRC observed no evidence of a release from this SWMU; however, because this SWMU was nearly full of wastewater during the VSI, PRC could not observe the surface of the SWMU's concrete walls (see Photographs No. 8 and 9). PRC observed that the storage tank (T-166) that feeds wastewater to this SWMU contained no visible evidence of deterioration (see Photograph No. 7).
SWMU 4	**Container Storage Area**
Unit Description:	This SWMU is an outdoor asphalt pad about 25 feet long by 15 feet wide. Steel 55-gallon drums containing nonhazardous nickel filter cake are stored closed on wooden pallets and are stacked two-drums-high on this pad. The drums in this SWMU are eventually loaded onto a flatbed truck and sent to Parkans International to reclaim the nickel in the waste.
Date of Startup:	The startup date of this SWMU was 1969.
Date of Closure:	This SWMU is currently active.
Wastes Managed:	This SWMU manages nonhazardous nickel filter cake generated from filtering product intermediates and wastewater containing nickel catalyst.
Release Controls:	This SWMU pad is made of asphalt. This unit has no other release controls.
History of Documented Releases:	No releases from this SWMU have been documented.

Observations: During the VSI, PRC observed about 90 steel drums containing nickel filter cake in this SWMU. PRC was not able to observe the physical condition of the asphalt pad because of the presence of the drums and standing water (see Photograph No. 10). Based on PRC's observation of the rainwater retained in the surface depression in the dirt and gravel surface adjacent to this SWMU, PRC presumes that the surface depression could retain about 55 gallons of liquid for a short time.

SWMU 5 **Waste Filter Aid Roll-off Boxes**

Unit Description: This SWMU consists of two 30-cubic-yard roll-off boxes located on a sloping concrete pad with 8-inch-high concrete dikes. Waste filter aid, which is generated from filtering raw materials during production, is initially accumulated in hoppers (Nonhazardous Waste SAAs [SWMU 7]) at its generation point. The hoppers (Nonhazardous Waste SAAs [SWMU 7]) are driven by forklift and emptied into this SWMU.

Date of Startup: The startup date of this SWMU is 1988.

Date of Closure: This SWMU is currently active.

Wastes Managed: This SWMU manages nonhazardous waste filter aid generated from filtering raw materials during production.

Release Controls: This SWMU includes a diked concrete pad that slopes down toward the north where a drain leads to the primary basin of the Wastewater Pretreatment System (SWMU 3).

History of Documented Releases: No releases from this SWMU have been documented.

Observations: PRC observed little staining and no cracks on the surface of this SWMU's concrete pad (see Photograph No. 11). About 20 cubic yards of waste filter aid was stored in this SWMU at the time of the VSI.

SWMU 6 **Used Oil Accumulation Container**

Unit Description: This SWMU is a 300-gallon plastic container that is used to accumulate used oil generated by the facility maintenance department. This SWMU is oriented horizontally and is about 3 feet in diameter and 4 feet long. It is located outdoors and adjacent to the southeast side of the MPUB. The container's base rests about 4 inches above the ground on top of two concrete, parking lot bumpers. One of the bumpers is located on a concrete pad, and the other bumper is located on dirt and gravel that has been compacted by truck traffic (see Photograph No. 12).

Date of Startup: The startup date of this SWMU is 1989.

Date of Closure: This SWMU is currently active.

Wastes Managed: This SWMU is used to accumulate used oil.

Release Controls: This SWMU does not have any release controls. Although about half of this SWMU is located above a concrete pad, the pad is not diked, and the other half of this SWMU is located above gravel.

History of Documented Releases: No releases from this SWMU have been documented.

Observations: During the VSI, PRC observed some staining of the gravel below this SWMU. The SWMU appeared to be in good condition; therefore, the

staining that PRC observed is possibly a result of drippage that occurred during filling and emptying of the container.

SWMU 7 **Nonhazardous Waste SAAs**

Unit Description: All Nonhazardous Waste SAAs are located indoors. There are two types of Nonhazardous Waste SAAs. Both types of units consist of indoor locations with containers for accumulating waste. One type of container consists of a steel pan on a steel, wheeled cart. The cart is used to accumulate filter cake, which is generated from the plate and frame filter presses located throughout the facility. The other type of container consists of a steel, one-cubic-yard hopper. The hopper is used to accumulate waste filter aid, which is generated throughout the facility from filtering liquid raw materials. Although the carts and hoppers are mobile by design, they are always located on concrete surfaces.

Date of Startup: The startup date of this SWMU is 1989.

Date of Closure: These SWMUs are currently active.

Wastes Managed: The pans on wheeled carts manage nonhazardous nickel filter cake. The one-cubic-yard hoppers manage nonhazardous waste filter aid.

Release Controls: These SWMUs are located indoors on concrete surfaces. The one-cubic-yard hoppers are occasionally brought outdoors by forklift to transfer their contents to the Waste Filter Aid Roll-off Boxes (SWMU 5), but these hoppers are always returned to the indoor SWMUs.

History of Documented Releases: No releases from these SWMUs have been documented.

Observations: PRC observed several of these SWMUs. These SWMUs appeared to be in good condition. Only minor staining and some small cracks were observed on the concrete floors where these SWMUs were located (see Photograph No. 13).

SWMU 8 **Salt Brine Accumulation Tanks**

Unit Description: This SWMU consists of three aboveground tanks (T-241, T-608, and T-371) located outdoors on concrete pads. Tank T-241 is a 27300-gallon, carbon steel tank, tank T-608 is a 19100-gallon, fiberglass tank, and tank T-371 is a 8500-gallon, stainless steel tank. Nonhazardous salt brine, which is generated as a byproduct of the facility's amination process, is initially accumulated in tanks T-241 and T-608. These tanks feed tank T-371, where the salt brine is pH adjusted. The salt brine is pumped from tank T-371 to a tanker truck and is sent off site for disposal.

Date of Startup: The startup date of this SWMU is 1970.

Date of Closure: These tanks are currently active.

Wastes Managed: These tanks manage salt brine that is generated as a byproduct of the facility's amination process.

Release Controls: These tanks are located on concrete pads. Although there are gravel surfaces adjacent to these tanks, outdoor trenches located in the tank farms will convey any release from these tanks to the Wastewater Pretreatment System (SWMU 3).

History of Documented Releases: No releases from these tanks have been documented.

Observations: PRC observed that this SWMU appeared to be in good condition. PRC observed no evidence that a release from these tanks has occurred (see Photographs No. 14 and 15).

SWMU 9 **Organic Residue Reduction System**

Unit Description: This SWMU consists of an evaporator and the following three aboveground tanks: (1) a 30000-gallon, carbon steel, organic residue accumulation tank (T-700), (2) a 15000-gallon, stainless steel, organic residue feed tank (T-247) for the evaporator, and (3) a 15000-gallon, stainless steel, organic residue storage tank (T-248), which stores the treated organic residue from the evaporator. Organic residue is skimmed from the surface of the wastewater in the Wastewater Pretreatment System (SWMU 3) and is accumulated in tank T-700. The organic residue in tank T-700 is piped to tank T-247, which feeds the evaporator. The evaporator reduces the moisture content of the organic residue. The treated organic residue from the evaporator is stored in tank T-248 until the waste is sent by tanker truck to Continental Cement in Hannibal, Missouri, for incineration.

Date of Startup: The startup date of tank T-700 of this SWMU is 1985. The startup date of tanks T-247 and T-248 and the evaporator is 1970. These units were used in the facility's production process before being used to reduce the volume of organic residue. The startup date of the skimmer of this SWMU is 1992.

Date of Closure: This SWMU is currently active.

Wastes Managed: This SWMU manages organic residue skimmed from the surface of wastewater in the Wastewater Pretreatment System (SWMU 3).

Release Controls:	All of the components of this SWMU are located on concrete pads, but the pads do not include dikes. However, the evaporator is located indoors, and the outdoor trenches located in the tank farms will convey any releases from the tanks to the Wastewater Pretreatment System (SWMU 3).
History of Documented Releases:	No releases from this SWMU have been documented.
Observations:	PRC observed that the evaporator and tanks appear to be in good condition. Minor staining and a few small cracks were observed in surfaces of the concrete pads supporting the tanks and the evaporator (see Photographs No. 16, 17, 18, and 19).
SWMU 10	**Spent Resin Roll-off Box**
Unit Description:	This SWMU consists of a tarp-covered, 20-cubic-yard roll-off box located outdoors on a concrete surface near the tank farms. This SWMU is used to accumulate spent deionization resins, which are generated about once a year when the deionization resins are replaced. Adjacent to this SWMU are trenches that lead to the Wastewater Pretreatment System (SWMU 3).
Date of Startup:	The startup of this SWMU is August 2, 1993.
Date of Closure:	This SWMU is currently active; however, this SWMU is active only about once a year.
Wastes Managed:	This SWMU manages nonhazardous spent deionization resin. In the past, spent deionization resin has been sold; however, the Lonza facility intends to dispose of the spent deionization resin at the Tazwell County Landfill.

Release Controls:	This SWMU is located on a concrete surface, and trenches adjacent to this SWMU will convey any release to the basins of the Wastewater Pretreatment System (SWMU 3). In addition, this unit is covered by a tarp.
History of Documented Releases:	No releases from this SWMU have been documented.
Observations:	PRC observed that this SWMU currently contains about 15 cubic yards of nonhazardous spent deionization resins, and the water in the spent deionization resins was being drained from the roll-off box to the adjacent trenches. Minor staining and small hairline cracks were observed in the concrete surface where this SWMU is located (see Photograph No. 6).

4.0 AREAS OF CONCERN

PRC identified one AOC during the PA/VSI. This AOC is discussed below; its location is shown in Figure 2.

AOC 1 **Former Toluene Underground Storage Tank (UST)**

This AOC was a 10000-gallon UST that stored virgin toluene, which was used in the Airex PVC foam manufacturing operation that began in 1977 and was discontinued in December 1982, when the Airex operation was being phased out. This UST was removed from the facility on December 19, 1988, and the removal company, Illinois Oil Marketing, observed no visible evidence of corrosion (Randolph 1989). The facility representatives do not know if a leak test of the UST was ever performed.

During the excavation and removal activities in 1988, a pipe to the tank was severed and about 17 gallons of a toluene and water mixture spilled into the excavation. About 6 cubic yards of contaminated soil (8.2 ppm toluene) was removed.

5.0 CONCLUSIONS AND RECOMMENDATIONS

The PA/VSI identified 10 SWMUs and 1 AOC at the Lonza facility. Background information on the facility's location; operations; waste generation and management practices; history of documented releases; regulatory history; environmental setting; and receptors is presented in Section 2.0. SWMU-specific information, such as the unit's description, dates of operation, wastes managed, release controls, history of documented releases, and observed condition, is presented in Section 3.0. The AOC is discussed in Section 4.0. Following are PRC's conclusions and recommendations for each SWMU and AOC. Table 3, located at the end of this section, summarizes the SWMUs and AOC at the facility and the recommended further actions.

SWMU 1 **Surface Impoundments**

Conclusions: This SWMU consists of both a PSI and a SSI, which are constructed of soil. In the past, the PSI received acidic and alkaline corrosive wastewaters (D002), which were neutralized as they commingled in the impoundment. Currently only nonhazardous wastewater is discharged to the PSI. The SSI currently receives and in the past received only nonhazardous wastewater from the PSI. In November 1990, the Lonza facility submitted to IEPA a closure plan for this SWMU, but the plan's approval by IEPA is pending. The potential for release to environmental media is summarized below.

Groundwater, surface water, and on-site soils: Moderate to high. The potential for release to groundwater, surface water, and on-site soils is moderate because the PSI and SSI are constructed of soil and, therefore, have no controls to prevent a release to on-site soils. In addition, the groundwater at the facility is located near the ground surface, and, because of the close proximity of the Illinois River to the facility, the river is probably in direct hydrologic connection with the groundwater below the facility.

Air: Low. The potential for release to air is low because the waste managed at this SWMU was not a volatile organic compound (VOC) or a semi-volatile organic compound (SVOC).

Recommendations: PRC recommends that the facility continue with the closure plan approval process.

SWMU 2 **Corrosive Wastewater Pretreatment System**

Conclusions: This SWMU is an elementary neutralization unit that also has a flocculating tank and a filter press to remove nickel catalyst from the wastewater. This SWMU began operating in August 1991 and appeared to be in good condition at the time of the VSI. All of the components of this SWMU either have secondary containment, are located near trenches that lead to the Wastewater Pretreatment System (SWMU 3), or are constructed with concrete and have a FRP liner. The potential for release to environmental media is summarized below.

Groundwater, surface water, air, and on-site soils: Low. The potential for release to groundwater, surface water, air, and on-site soils from this SWMU is low because this SWMU has some release controls, appears to be in good condition, and is only 2 years old.

Recommendations: PRC recommends no further action for this SWMU at this time.

SWMU 3 **Wastewater Pretreatment System**

Conclusions: This SWMU is a system of three concrete basins that pretreat nonhazardous wastewater from various facility production operations, outdoor processing areas that have rainwater runoff, and treated wastewater from the Corrosive Wastewater Pretreatment System (SWMU 2). This unit was constructed in 1970 and is currently active. PRC observed no evidence of a release from

this SWMU; however, because this unit was nearly full of wastewater during the VSI, PRC could not observe the entire unit. The potential for release to environmental media is summarized below.

Groundwater, surface water, air, and on-site soils: Low. The potential for release to groundwater, surface water, air, and on-site soils from this SWMU is low because this SWMU is constructed of concrete and manages only nonhazardous wastewater that is contaminated with nonhazardous organic residue.

Recommendations: PRC recommends no further action for this SWMU at this time.

SWMU 4 **Container Storage Area**

Conclusions: This SWMU is an outdoor asphalt pad that stores closed, steel, 55-gallon drums containing nonhazardous nickel filter cake. This SWMU began operating in 1969 and is currently active. This SWMU has no secondary containment, but it does have an asphalt base. The potential for release to environmental media is summarized below.

Groundwater: Low. The potential for release to groundwater from this SWMU is low because the nickel filter cake is a nonhazardous, low-moisture sludge. The release of any nickel filter cake that contained free liquids will be retained by the surface depression in the dirt and gravel area adjacent to the SWMU long enough to permit cleanup of the spill before it could migrate to the groundwater.

Surface water and on-site soils: Low to moderate. The potential for release to surface water and on-site soils from this SWMU is low to moderate because a spill of any free liquids from a 55-gallon drum of nickel filter cake will probably seek the surface depression in the dirt and gravel area adjacent to

this SWMU. If a spill occurs while it is raining, the spill could contaminate surface water run-off.

Air: Low. The potential for release to air from this SWMU is low because this waste is a low-moisture sludge that does not contain VOCs or SVOCs.

Recommendations: PRC recommends no further action for this SWMU at this time.

SWMU 5 **Waste Filter Aid Roll-off Boxes**

Conclusions: This SWMU consists of two 30-cubic-yard roll-off boxes on a diked, concrete pad that slopes toward a drain that discharges to the Wastewater Pretreatment System (SWMU 3). This SWMU accumulates nonhazardous waste filter aid, which the facility generates by filtering raw material liquids. The potential for release to environmental media is summarized below.

Groundwater, surface water, air, and on-site soils: Low. The potential for release to groundwater, surface water, air, and on-site soils from this SWMU is low because this SWMU manages a solid, nonhazardous waste that does not contain VOCs and SVOCs.

Recommendations: PRC recommends no further action for this SWMU at this time.

SWMU 6 **Used Oil Accumulation Container**

Conclusions: This SWMU is a 300-gallon plastic container that is used to accumulate used oil. The container's base rests about 4 inches above the ground on top of two concrete, parking lot bumpers. One of the bumpers is located on a concrete pad, and the other bumper is located on dirt and gravel that has been compacted by truck traffic. This unit does not have any release controls, and PRC observed some minor staining of the gravel below the container. The potential for release to environmental media is summarized below.

Groundwater: Low. The potential for release to groundwater from this SWMU is low because the container appears to remain closed when not in use, which limits the possibility of a spill occurring, and the compacted dirt and gravel and the concrete would retard the migration of any spill of used oil toward the groundwater.

Surface water and on-site soils: Low to moderate. The potential for release to surface water and on-site soils from this SWMU is low to moderate because there is evidence that minor spills do occur, and any spill to the dirt and gravel or concrete base could wash to surface water adjacent to the facility or to on-site soils.

Air: Low. The potential for release to air from this SWMU is low because the used oil, which is generated from crankcase oil changes, is believed to contain only low concentrations of VOCs or SVOCs.

Recommendations: PRC recommends that the facility remove and dispose of the stained dirt and gravel adjacent to this SWMU.

SWMU 7 **Nonhazardous Waste SAAs**

Conclusions: All Nonhazardous Waste SAAs are located indoors on concrete floors. There are two types of these SWMUs: (1) wheeled carts that are used to accumulate nickel filter cake and (2) one-cubic-yard hoppers that are used to accumulate waste filter aid. The potential for release to environmental media is summarized below.

Groundwater, surface water, air, and on-site soils: Low. The potential for release to groundwater, surface water, air, and on-site soils from these SWMUs is low because these SWMUs are located indoors and manage wastes that do not contain VOCs and SVOCs.

Recommendations: PRC recommends no further action for these SWMUs at this time.

SWMU 8 **Salt Brine Accumulation Tanks**

Conclusions: This SWMU consists of three aboveground tanks located outdoors on concrete pads. This SWMU manages salt brine waste that is generated as a byproduct of the facility's amination process. Although these tanks do not have secondary containment, outdoor trenches located in the tank farms would convey any release from these tanks to the Wastewater Pretreatment System (SWMU 3). The potential for release to environmental media is summarized below.

Groundwater, surface water, air, and on-site soils: Low. The potential for release to groundwater, surface water, air, and on-site soils from this SWMU is low because this SWMU appears to be in good condition, and any spill from this SWMU would collect in the adjacent trenches and would be conveyed to the Wastewater Pretreatment System (SWMU 3).

Recommendations: PRC recommends no further action for this SWMU at this time.

SWMU 9 **Organic Residue Reduction System**

Conclusions: The SWMU consists of an evaporator located indoors and three aboveground tanks located outdoors. This SWMU manages organic residue that is skimmed from the surface of the wastewater in the primary basin of the Wastewater Pretreatment System (SWMU 3). Although this SWMU does not have secondary containment, outdoor trenches located in the tank farms would convey any release from these tanks to the Wastewater Pretreatment System (SWMU 3). The potential for release to environmental media is summarized below.

Groundwater, surface water, air, and on-site soils: Low. The potential for release to groundwater, surface water, air, and on-site soils from this SWMU is low because this SWMU appears to be in good condition, any release from this SWMU would be contained in the Wastewater Pretreatment System (SWMU 3), and this SWMU manages a nonhazardous waste that contains no VOCs and SVOCs.

Recommendations: PRC recommends no further action for this SWMU at this time.

SWMU 10 **Spent Resin Roll-off Box**

Conclusions: This SWMU consists of a tarp-covered, 20-cubic-yard roll-off box located outdoors on a concrete surface near the tank farms. This SWMU manages nonhazardous spent deionization resins. This SWMU is located near the tank farm trenches that convey wastewater to the Wastewater Pretreatment System (SWMU 3), and, at the time of the VSI, water was being drained from the SWMU to the tank farm trenches. The potential for release to environmental media is summarized below.

Groundwater, surface water, air, and on-site soils: Low. The potential for release to groundwater, surface water, air, and on-site soils from this SWMU is low because this SWMU is located on a concrete surface that drains to the tank farm trench, which conveys wastewater to the Wastewater Pretreatment System (SWMU 3).

Recommendations: PRC recommends no further action for this SWMU at this time.

AOC 1 **Former Toluene Underground Storage Tank (UST)**

Conclusions: This AOC was a 10000-gallon UST that stored virgin toluene. The UST was used between 1977 and December 1982. This UST was removed from the facility on December 19, 1988. During the excavation and removal activities,

a pipe to the tank was severed and about 17 gallons of a toluene and water mixture spilled into the excavation. About 6 cubic yards of contaminated soil (8.2 ppm toluene) was removed. The potential for release to environmental media is summarized below.

Groundwater, surface water, and air: Low. The potential for release to groundwater, surface water, and air from this AOC is low because the UST no longer exists and some soil that was contaminated during the removal of the UST was excavated and disposed of.

On-site soils: Low to moderate. The potential for release to on-site soils from this AOC is low to moderate because a toluene and water mixture spilled from the UST to on-site soils during the UST removal, and only one sample was collected to confirm that there was no soil contamination remaining.

Recommendations: PRC recommends that samples be collected from soil adjacent to the Former Toluene UST (AOC 1) and the soils be analyzed for VOCs to determine if the release was adequately remediated.

TABLE 3

SWMU AND AOC SUMMARY

SWMU	Dates of Operation	Evidence of Release	Recommended Further Action
1. Surface Impoundments	Early 1970s to present	No	Facility continue with the closure plan approval process
2. Corrosive Wastewater Pretreatment System	August 5, 1991, to present	No	No further action
3. Wastewater Pretreatment System	1970 to present	No	No further action
4. Container Storage Area	1969 to present	No	No further action
5. Waste Filter Aid Roll-off Boxes	1988 to present	No	No further action
6. Used Oil Accumulation Container	1989 to present	Yes	Remove and dispose of stained dirt and gravel adjacent to the SWMU
7. Nonhazardous Waste SAAs	1989 to present	No	No further action
8. Salt Brine Accumulation Tanks	1970 to present	No	No further action
9. Organic Residue Reduction System	Tank T-700: 1985; skimmer: 1992; tanks T-247 and T-248 and evaporator: 1970 to present	No	No further action

TABLE 3

SWMU AND AOC SUMMARY

(Continued)

SWMU	Dates of Operation	Evidence of Release	Recommended Further Action
10. Spent Resin Roll-off Box	August 2, 1993 to present	Yes; however, the release was intentionally being drained to adjacent concrete trenches that discharge to the Wastewater Pretreatment System (SWMU 3)	No further action

AOC	Dates of Operation	Evidence of Release	Recommended Further Action
1. Former Toluene Underground Storage Tank	1977 to 1982	No	Analyze soil samples for VOCs

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APPENDIX A

VISUAL SITE INSPECTION SUMMARY AND PHOTOGRAPHS

(16 Pages)

VISUAL SITE INSPECTION SUMMARY

Lonza, Inc.
U.S. Route 24
Mapleton, Illinois 61547
ILD 001 643 659

Date:	August 3, 1993
Primary Facility Representative:	Robert Miller, Safety and Environmental Affairs Manager, Lonza
Representative Telephone No.:	(309) 697-5400
Additional Facility Representatives:	David Kovars, Sorbitol Production Manager, Lonza Mark DeSchepper, Environmental Engineer, Lonza Bruce Davey, Plant Manager, Lonza Daniel Gallagher, Environmental Science and Engineering, Inc.
Inspection Team:	John Maher, PRC, Environmental Management, Inc. (PRC) Cathy Collins, PRC
Photographer:	John Maher, PRC
Weather Conditions:	Morning: Sunny, 80 °F, and calm Early afternoon: Heavy rain, 70 °F, windy Late afternoon: Cloudy, 75 °F, light wind
Summary of Activities:	The visual site inspection (VSI) began at 10:30 a.m. with an introductory meeting. The inspection team explained the purpose of the VSI and the agenda for the visit. Facility representatives then discussed the facility's past and current operations, solid wastes generated, and release history. Facility representatives provided the inspection team with copies of requested documents. The VSI tour began at 2:40 p.m. During the tour, PRC observed the following SWMUs and AOCs: Surface Impoundments (SWMU 1), Corrosive Wastewater Pretreatment System (SWMU 2), Wastewater Pretreatment System (SWMU 3), Container Storage Area (SWMU 4), Waste Filter Aid Roll-off Boxes (SWMU 5), Used Oil Accumulation Container (SWMU 6), Nonhazardous Waste SAAs (SWMU 7), Salt Brine Accumulation Tanks (SWMU 8), Organic Residue Reduction System (SWMU 9), Spent Resin Roll-off Box (SWMU 10), and Former Toluene Underground Storage Tank (AOC 1).

The tour concluded at 3:45 p.m., after which the inspection team held an exit meeting with facility representatives. The VSI was completed and the inspection team left the facility at 4:00 p.m.

Photograph No. 1
Orientation: Southwest
Description: Primary Surface Impoundment (SWMU 1)

Location: SWMU 1
Date: August 3, 1993

Photograph No. 2
Orientation: Southwest
Description: Secondary Surface Impoundment (SWMU 1)

Location: SWMU 1
Date: August 3, 1993

Photograph No. 3 Location: SWMU 2
Orientation: South Date: August 3, 1993
Description: Corrosive Wastewater Pretreatment System (SWMU 2) - acidic wastewater storage tank (T-168) in foreground; corrosive wastewater mixing tank (T-169) to the left of T-168

Photograph No. 4 Location: SWMUs 2 and 7
Orientation: West Date: August 3, 1993
Description: Corrosive Wastewater Pretreatment System (SWMU 2) - filter press for removing nickel from acidic wastewater in background; filter cake hopper (Nonhazardous Waste Satellite Accumulation Area [SWMU 7]) in foreground

Photograph No. 5 Location: SWMU 2
Orientation: Northwest Date: August 3, 1993
Description: Corrosive Wastewater Pretreatment System (SWMU 2) - caustic wastewater storage tank (T-172) in foreground and to the right; sump in foreground adjacent to left side of concrete base of tank T-172

Photograph No. 6 Location: SWMU 2 and 10
Orientation: North Date: August 3, 1993
Description: Background: caustic wastewater storage tank (T-172) of Corrosive Wastewater Pretreatment System (SWMU 2); foreground: Spent Resin Roll-off Box (SWMU 10)

Photograph No. 7 Location: SWMU 3
Orientation: South Date: August 3, 1993
Description: Corrosive Wastewater Treatment System (SWMU 2) feeder storage tank T-166 (larger of two tanks in foreground) containing wastewater generated from sorbitol operation

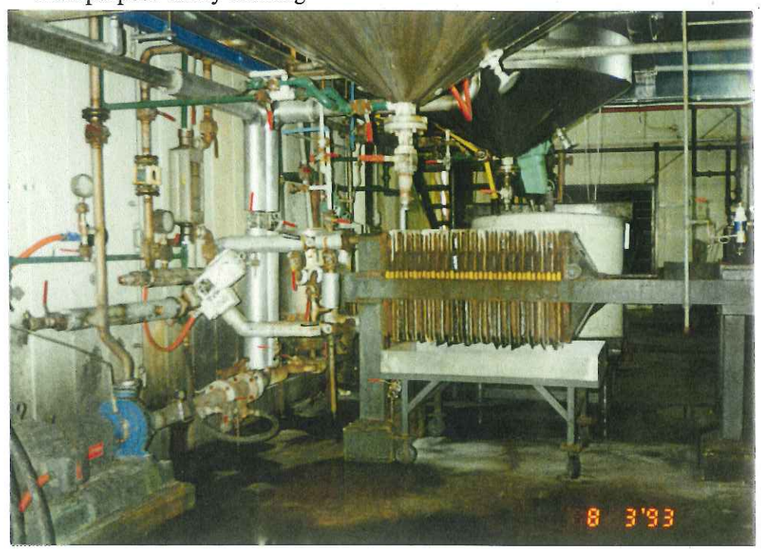
Photograph No. 8 — Location: SWMU 3 and 9
Orientation: Southwest — Date: August 3, 1993
Description: Primary basin of the Wastewater Pretreatment System (SWMU 3) in foreground; primary residue storage tank (T-700) of the Organic Residue Reduction System (SWMU 9) to the left of the primary basin

Photograph No. 9 — Location: SWMU 3
Orientation: Northwest — Date: August 3, 1993
Description: Tertiary basin (foreground) and secondary basin (to the right of the tertiary basin) of the Wastewater Pretreatment System (SWMU 3)

Photograph No. 10 Location: SWMU 4
Orientation: North Date: August 3, 1993
Description: Container Storage Area (SWMU 4); PRC presumes that the water on the pad in the foreground is from rainfall that occurred earlier during the day of the VSI

Photograph No. 11 Location: SWMU 5
Orientation: Southwest Date: August 3, 1993
Description: Waste Filter Aid Roll-off Boxes (SWMU 5) on diked concrete pad

Photograph No. 12 Location: SWMU 6
Orientation: West Date: August 3, 1993
Description: Used Oil Accumulation Container (SWMU 6) located on the southeast side of the multipurpose utility building



Photograph No. 13 Location: SWMU 7
Orientation: South Date: August 3, 1993
Description: One of the Nonhazardous Waste SAAs (SWMU 7) - shows filter cake accumulation pan on wheeled cart situated below a filter press that filters product

Photograph No. 14 Location: SWMU 8
Orientation: North Date: August 3, 1993
Description: Salt Brine Accumulation Tanks (SWMU 8) (T-241, white tank on left, and T-608, gray tank on right)

Photograph No. 15 Location: SWMU 8
Orientation: East Date: August 3, 1993
Description: Salt Brine Accumulation Tank (SWMU 8) (T-371) where salt brine is pH adjusted before being sent off site for treatment

Photograph No. 16 Location: SWMU 9
Orientation: Southwest Date: August 3, 1993
Description: Tank T-700 of the Organic Residue Reduction System (SWMU 9) - initial accumulation tank of organic residue skimmed from the tertiary basin of the Wastewater Pretreatment System (SWMU 3)

Photograph No. 17 Location: SWMU 9
Orientation: Southwest Date: August 3, 1993
Description: Tank T-247 (on left) and tank T-248 (on right) of the Organic Residue Reduction System (SWMU 9); Tank T-247 receives organic residue from Tank T-700 and feeds the evaporator for SWMU 9, and Tank T-248 receives the treated organic residue from the evaporator

Photograph No. 18 Location: SWMU 9
Orientation: Southwest Date: August 3, 1993
Description: Evaporator of the Organic Residue Reduction System (SWMU 9); the evaporator is located within the amines production building

Photograph No. 19 Location: SWMU 9
Orientation: Southwest Date: August 3, 1993
Description: Tank T-248 of the Organic Residue Reduction System (SWMU 9); Tank T-248 receives treated organic residue from the evaporator and is the final accumulation tank before the organic residue is sent off site for treatment

Photograph No. 20 Location: AOC 1
Orientation: Southwest Date: August 3, 1993
Description: Former location (grass area) of Former Toluene Underground Storage Tank (AOC 1)

APPENDIX B

VISUAL SITE INSPECTION FIELD NOTES

(27 Sheets)

(1) Lonza 8/3/93 10:40 AM

1963 production unit of sorbitol constructed
1964 " " " amines "

Buildings were added after original unit.: 1) crystalline sorbitol
1977-78 2) Warehouse

Baird Chemical Industries originally owned this site. 1967 Lonza purchased Baird.

Probably farmland before Baird.

Major raw material is dextrose

Lonza, Inc. is U.S. company of A/L Alusuisse/Lonza

(2)

Most A/L operations are in Europe.

Manufacture fine (or specialty) chemicals many are precursors for pharmaceuticals and herbicides.

Lonza, Inc. is property owner.

Products:

1) Sorbitol & polyols (carbohydrates business) main use is in toothpaste

2) Amines & chlorides

3) Quats & Specialties

4) Organic Phosphates

8/3/93

(3)

Products sold by rail, mostly drums, and tanker

Processes are batch or semi-batch

Waste:

Hazardous:

1) only 5-K parts cleaner; manifested
rate: _____ → sparkling as CESQG

✱ → Manifests & preprints

source: Maintenance of equipment and a few vehicles.

2) Wastewater from demineralizer regeneration (D002)
from sorbitol operation
High & low pH

Dan 8/3/93

Non Haz

(4) from sorbitol production

1) Nickel catalyst is filtered out of wastewater → nickel filter cake. which is sold.

✱ sold to Perkins International who reclaims the nickel in Houston, TX

2) Empty drums - crushed and landfilled.
from product drums.

Elementary Neutralization Unit

Regenerating ion exchange resins.

- using acid will dissolve the nickel
- using caustic regenerates anion beds (resins)

Dan 8/3/93

(5)

Acid stream treated with a Dithiocarbamate to complex the nickel (precipitates) in a tank. Then filtered. The filter cake, plus filter cake from filtering ~~the~~ product, is sold. Two separate filtering systems.

* Tank ~ 8-9,000 FRP construction
  Age: 3-4 yrs old

Filter → plate and frame

accumulated in hopper then transferred to drums.

* where are drums accumulated.

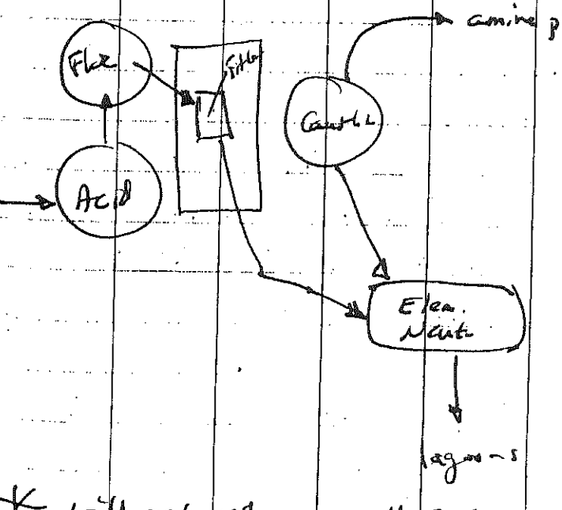
Wastewater continues to neutralization unit where the caustic stream is added. → Discharged to Lagoon 1 then flows to Lagoon 2.

Ja 8/3/93

(6)

Caustic wastewater stream goes to ~ 15,000 gallon holding tank which feeds elemental neut. unit.

A portion of the caustic wastewater is used at the amine plant to scrub HCl vapors.



* will get volumes on all 3 tanks

JM 7/1-10/93

(7)

concrete lined w/ FRP

Neut. Unit

Plant trough where acid and caustic is fed in and drains to sump. Flows out by gravity. Operates only when they use the filter.

FRP piping is underground to lagoon.

Amines Production

Wastes:

① Wastewater
- discharge from HCl scrubber.
- jets creating vacuum → condensate
- contaminated rainrunoff
- cleaning outdoor concrete pads for tank farms.

all of these collected in 3 basins & horizontal tank

gm 2/3/93

(8)

primary

Water flows to 75,000 gal. concrete basin where pH is adjusted and reacts generally ammonium chlorides.

Skimmer collects organic material which is accum. in T-700 tank (30,000 gal; made of ~~Stainless steel~~ Carbon)

* Sent to another tank in amines plant → holding tank? goes through evaporator

→ holding tanks: 15,000 Stainless (Tank tanks) Store (called residue)

→ sent to Magnum International (fuel blender)

last recently to Continental Cement in Hannibal, MO for incineration (fuel)

* really sent to company next to Continental cement → Missouri Fuel Recycler Inc. Hannibal, MO

gm 2/3/93

(9)

Water from primary basin → secondary basin which flows to tertiary basin. These are used simply for additional holding to remove more organic material.

Tertiary basin Water → lagoon 1 → lagoon 2

lagoon 1: 3 million gal

lagoon 2: 5 million gal

→ pumping station to tanker trucks which deliver to GPSD. Will adjust pH again → bring it down with ~~sulfuric~~ sulfuric acid from pH 10 (which is maintained in lagoon to retard bacterial growth). Also

Jan 9/9/98

(10)

add anionic surfactant to neut. quests. Also add bleach for odors.

- This is all done while it is pumped into the tanker truck. Trucked to Bartonville where there is a collection point for wastewater.

Generate about 75,000 gal/day this year. Normally ~ 50,000 gal/day

Residue rate: 1,000 gal/day

Distill and evaporate also in production process/generates "residue". This "residue" goes to tank T-247

(11)

Salt brine

- from amination process
- byproduct of →
- No metals
- initially accumulated in T-241 and T-608
  → pH adjusted in T-371 and sent to IPC in Rockford which treats for removal of organic material and then discharge to Rockford POTW.

rate: 55,000 gal/day

Crushed drums, from amines plant.

receive some raw material in drums
- Crushed and landfill → Tazewell County Landfill.

rate: 10,000 lbs/month

Jm 8/3/93

(12)

Filter Aid

Most filtration goes on in amines plant. for purifying materials.
- Use diatomaceous earth as medium
  → part in 30 yd³ dumpsters on pad. Landfilled at Tazewell County Landfill.

rate: 17,000 lbs/mo.

At generation point (filters) the diatom. earth is placed in small dumpsters and fork lift relocates to 30 yd³ dumpster.

Laboratory - Q C

working glassware to carries wastewater. Unused sample material is recycled in plant.
- includes (water-water) IPA/DI, and ethanol

JM 8/3/93

(13)

Occasionally generate spent resin → maybe once a year
volume: ~~5m 500-600~~ 300 cubic feet
Sometimes sold, but will go to landfill this time.
Wait to get a special waste permit for landfill.
- it is currently on site.

Used oil (lubricating) - maintenance
goes into 300 gal plastic container. Usually picked up by J-K. in Pekin

JM 8/3/93

(14)

SWM details such as construction materials and dates will be provided later.

Former operation

Current distribution center was Airex PVC foam operation
discontinued ~ 1981
started ~ 1978
Made foam for sailboat construction and life preserver material.
→ waste foam → landfilled
· minor amount ~~to Peoria Disposal~~

No ongoing waste streams other than foam from trimming.

Drums of unreacted raw material

JM 8/4/93

When operation shut down → Peoria Disposal or Reg. thanks Nonhazardous Landfill

(15)

Acres 102
Employees 89
Shifts 24 hr - 7 day/week
8' chain-link fence w/ barbed wire
~~24 hr guard~~
Monitors and 24 security, but not guards at night. Use shift supervisor at night

USTs

one removal with phase out of Airex. Contained toluene (raw) small tank
No other USTs on site or in past

A fire in 1976 no other info

JM 8/3/93

(16)

Storm Water

Roofs → of process plants go to treatment system.

Uncontaminated runoff goes to on-site storm sewers → NPDES covers this. issued 1991.
Storm sewer ~~system~~ also receives cooling tower blowdown and boiler condensate.

Discharges to Pond Lily Lake → backwater of Illinois river

1:05 - 2:50 Break for lunch

Expect to change wastewater treatment system.

JM 8/3/93

(17)

Begin Tour: 2:40pm

Photo 1 (South) 2:45

Nickel Storage

~90 drums of nickel waste on site. asphalt next to gravel

Photo 2 (North)

Photo 3 (south) Nickel wash water tank from floors of process area

Photo 4 Acid storage and ~~neutr~~ mix tanks T-168 T-169

(South) Dike area concrete no stains or cracks

Photo 5 (West) filter press of wash water

Jm 8/3/93

(18)

Photo 6 Caustic waste water tank (Northeast)

Photo 7 (South) resin dumpster drainage water to trench on concrete

Photo 8&9 (Southwest) resider tanks

Photo 10 (Southwest) evaporator; 2nd Floor

Photo 11 (east) tank for pH adjust of salt brine T-871

Photo 12 (north) salt brine tanks 1 & 2

Photo 13 (Southwest) primary basin

Jm 8/3/93

(19)

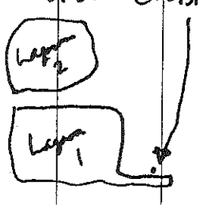
Photo 14 T-750 (southwest)
Concrete foundation; 6" lip
next to gravel

Photo 15 2nd & 3rd basins
(northwest)

Photo 16 (Southwest) Filter cake dumpster
Sloped concrete with 8" dia
at high end.
Sloped to north with drain
(trench) to primary basin

Lagoons have gw monitoring wells

Photo 17 drum cluster (southwest)



JM 8/3/93

(20)

Photo 18 (Southwest) Lagoon 1

Note: weather in morning 75° ~~partly cloudy~~ sunny
" " afternoon 70°, heavy rain (1.4 inches)
" " later afternoon ~~70°~~ 60°, ptly cloudy

Note: perimeter fence not on south end of lagoon

Photo 19 (Southwest) Lagoon 2
Photo taken by J.M.

Note: nearest residence is ½ to ¾ mile north

Photo 20 (West) Used oil container
on concrete and gravel
next to MPDES outfall

JM 8/8/93

(21)

(Photo 20) (southwest) former tolueneUST

End of tour: 3:45pm

Loreta would like copy of photos.

PRC requested info on tank pull We will request additional info later.

8/3/93

(22)

8/3/93

(46)

Lonza, Inc. 8/3/83
Susan 80 yr Sealy
Mapleton IL
Mark DeScheppers Lonza
David Kovars Lonza
Robert E. Miller Lonza
Daniel Gallagher ESC
Bruce Davey Lonza
PPG on-site 10:30

Plant history
1963 + 1964
Unit Carbohydrate + Sorbital
Amine Unit
Shortly after Ward
1964 or 1965

Additional buildings were added

(47)

Crystalline Sorbital and plant Warehouse 1978

Put in for PVC foam but used on Crystalline Sorbital

Basic Chemical Industries
Imported and Sold Chemicals primarily
1969 - Lonza purchased then

Prior to 1964 may have been farm land

Raw material is ~~Dextrose~~

(48)

Lonza, Inc. U.S. Company of Alusuisse Aluminum company combined w/ chemical company A/L 40% chemical and 60% Aluminum

Manufacturing organic Specialty Chemicals

Fine chemicals are precursors for pharmaceuticals

Corporate Headquarters in Fairlawn N.J.

(49)

Sold by rail car, truck, bag, & drum

Various batch sizes 1K to 6K

Waste generation

Only hazardous waste is naphthalene based in parts cleaner

Currently are conditionally exempt 24 & 25 gallons per month

S-K comes in every other month

Parts cleaner from maintenance

They have a yard ~~tractor~~ and forklift

They do maintenance on an emergency response van

Schlotterbeck

Wastewater

Demineralizer regenerating

These flushes produces acid and caustic

They generate a HW in silt that is treated in an exempt unit

Nickel waste

Nickel catalyst is filtered out of product and waste water

After elementary neutralization wastewater is sent to city

After Nickel is separated it is sold to a facility for recovery

(52)

Also generate some empty drums crush & toss them - Landfill

Regenerate ion exchange generate acid (nickel) and Caustic (regenerate anion (Cr^{-1}) bed)

Each stream in holding tank

DX 2000
DITHIOCARBAMIC
PPT out NICKEL

TREATED IN A TANK & filtered
FILTER CAKE &
NICKEL WASTE

(53)

They have product filter cake and acid filter cake
FRP - Tank 8-10,000
Polypropylene Plate and frame filter

FILTER CAKE Accumulated in ~~a~~ hopper and drummed

(Acidic)
Waste water → centralization
(Basic)
WASTEWATER

Then water is discharged to lagoon 1st lagoon then to 2nd lagoon

Caustic tank is about 15,000

They take a side stream off the caustic stream

Package International Houston, TX

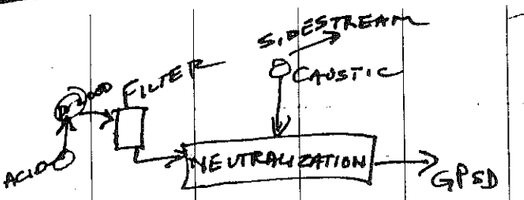
High pH is piped to amine plant and used as a scrubber for HCl vapors

DATES OF OPERATION

ACID HOLDING 1989

CAUSTIC 1990

Formerly caustic would just discharge to lagoon



All ~~three tanks~~ FRP

*Request Volumes, Agee, Start up Dates,

Neutralization unit Flat Trough to Sump which is mixed caustic + Acid ~~not~~ come flow in trough + mix

Discharge is monitored FRP lined Sump

Underground piping to lagoon FRP

Amines Waste
Generation

Waste water
Discharge from
HCl Scrubber

Water through
venturi to create
vacuum spent
water is dirty

Wastewater from
Cleaning tanks
and Pads and
Stormwater runoff

Pads are contoured
to drain to a

central system

Uncontaminated
Rainfall runoff
does not flow
into this

Wastewater discharge
to 3 basins
Primary 2° + 3°
and a horizontal
tank
1° 75,000 gallon Concrete
adjust pH Also
neutralize quaternary
ammonium chloride
Skimmer to skim
organics which
collect in horizontal

(58)

holding tank (30,000 gal)
Steel tank ☆
Sent to another
tanks - then thru
an evaporator to
remove water TO
final tank to
fuel blender

To Steel Mill Magnum International
or Continental Cement
in Hannibal MO.
Missouri fuel blenders
ORGANIC is called
residue

Holding tank is 15,000
gallon steel tank

(59)

247 to evaporator to
248 shipping tank

Water from primary
to 2° to 3° basin
Basins are used
for the further separation
of organic material
Organic material
does not separate
very easily.

Then waste water
is pumped from
tertiary basin to
lagoon 1 - $3 \cdot 10^6$ gal
1° underflows to Lagoon 2
Lagoon 2 $5 \cdot 10^6$ gal

Lagoon 2 is sent to pumping Station The water is shipped by tank trucks to Greater Peoria Sanitary District keep pH @ 10 to 12 Sanitary has 2 ppm Quaternary limit Add anionic surfactant to remove quaternary Add bleach to water to reduce water - As the material is added to the tanker

Water is trucked to Bartonville - nearest

pickup point - dump into sewer.

70,000 gallons per day Normally 50,000 GPD

Raw Material, intermediate, or final product in NH tanks

Hazardous tank → raw material

Production train filters Product nickel plate & frame / stainless

Extra residue comes from distillation of alcohol, amines,

etc. also called residue Bottoms go to tank 247 and goes to evaporator

Salt brine amination process Cl + diethylamine + monoethylamine They get salt brine as a by product As far as they know this does not contain heavy metals

Tank 241 initially accumulate salt brine and in tank 608

Adjusted for pH in tank 37 to treatment company IPC in Rockford

treated to remove organic material and sent to Rockford POTW.

Salt Brine 5500 GPD

Residue 1000 GPD

Crushed Drums in amines Some raw material and reworked material Tazewell Co. Landfill

(64)

10,000 lb/month

§ FILTER AID -
FILTER Amines
Surfactants +
specialties -
Use Diatomaceous
Earth as a filter
medium Put in
30 C.Y. roll off
removed & landfilled
Tagewell Co.
17,000 lb/month
At process put in
little dumpster to
Roll off

QC laboratory
waste from washing

(65)

Glassware De Minimis
Waste water - Unused
Samples are
reworked into plant
IPA + EOH into sewer

Demineralizer Bed -
Spent Resins from
resin bed removed
per year ~5-600 cubic
Feet OR ~12 C.Y.
Sometimes Resin is
landfilled or sold
Put in 30 C.Y.
Roll off

Used oil from maintenance
in container - 300 gallon
plastic Container

(66)

To Safety-Kleen Pekin (IL)
Bleach
H_2SO_4 in Totes

Other Materials are tracked

AIREX Operation
PVC Foam operation 1977 & 80
1980 or 1981

Manufactured PVC foam
Soft foam for Lotatia
Rigid foam for sailboat operation

Dibutyl phthalate 1980
(Raw Materials) 1981

(67)

from PVC may
home been Landfilled
12 drums? by
Peoria Disposal
Foam probably went
to Tazewell
Drums went to Peoria
City County Landfill

They don't put waste
in drums, except
nickel waste

Plastic drums are
sent back

102 acres 89 employees
24 hrs per day
Seven days per week

(68)

6-foot chain link on top

Cameras monitor & employees monitor perimeter

MPUB
Multi Purpose Utility Building
lab and admin

Steam, Water, and diesel

One UST removed in accordance with AIREX
Toluene tank utilized ~500 or 600 gallon tank

(69)

They had a large fire on the distillation column in late 70s or so

Uncontaminated (NOT IN PRODUCTION) stormwater to ~~waste water treatment~~ cove
STORM SEWER

1991 was the most recent NPDES
They are modifying their permit.

Storm Sewer
Cooling tower blowdown & steam condensate

(70)

Storm Water
Discharges to
Pond Water Lilly
Lake Backwater
of Illinois River.

No treat July 90
Neutralization July 91

PRC off site for
lunch 1:15 pm.

PRC returned 1:55 pm
Heavy Rainstorm

To South field
& Pond Lilly Lake

(71)

T-168 Acid Rinse 11,400 g
Rx Rn T-106 25,000
T-169 Ni Precip
4,900 gal
T-170 Dx-2000 1,700
gal
T-172 Caustic 20,300

New wastewater management
system - They will
not keep lagoons

They are closing lagoons as
part of their
Consent agreement

Missouri Fuel Recycler
Inc. Hannibal, MO

72

T-700 is Carbon STEEL
Facility Tour 2:40
Photo 1 S
Product filter press drop Cake onto floor

Photo 2 N
NICKEL drums on pallets
Reclaim Ni is very low Ni
On ground puddle in front is raw nickel

Photo 3 S on Concrete

73

Photo 4 S T-168 on Concrete

Photo 5 W/
FILTER PRESS + Hopper inside on concrete building

Photo 6 NE T-172
~~Waste~~ Cmc Elem
ment

Photo 7 N
Roll off - Resin

Photo 8 + 9 W
Residue

(74)

Photo 10 E
EV 220 E

Photo 11 W
Salt Brine T-371

Photo 12 N
Salt Brine

Photo 13 S
Basin
Horizontal Tank on left

Photo 14 W
Solvent Recovery
ORGANIC T-2700
on Concrete

(75)

Photo 15 N
2° + 3° Basin

Photo 16 SW
Ammonia Filter cake
on concrete lined
Roll off Box

Lagoon - Finger
had a layer of
clay put in

Photo 17 SW
Drum Crusher

Photo 18 SW
Lagoon 1

(76)

Photo 19 W
Lagoon 2

Photo 20 N
Waste Oil TOTE
on ~~Concrete~~
No sign of
Spill on Ground

Photo 21
Location of
former Toluene
UST
Facility TOUR
OVER 3:45

Fab shop
Covered shelter
Where Contractor

(77)

does work

Need Tank Pull
information and
SITE Plan

PRC OFF SITE
4:00 pm.

8/3/93